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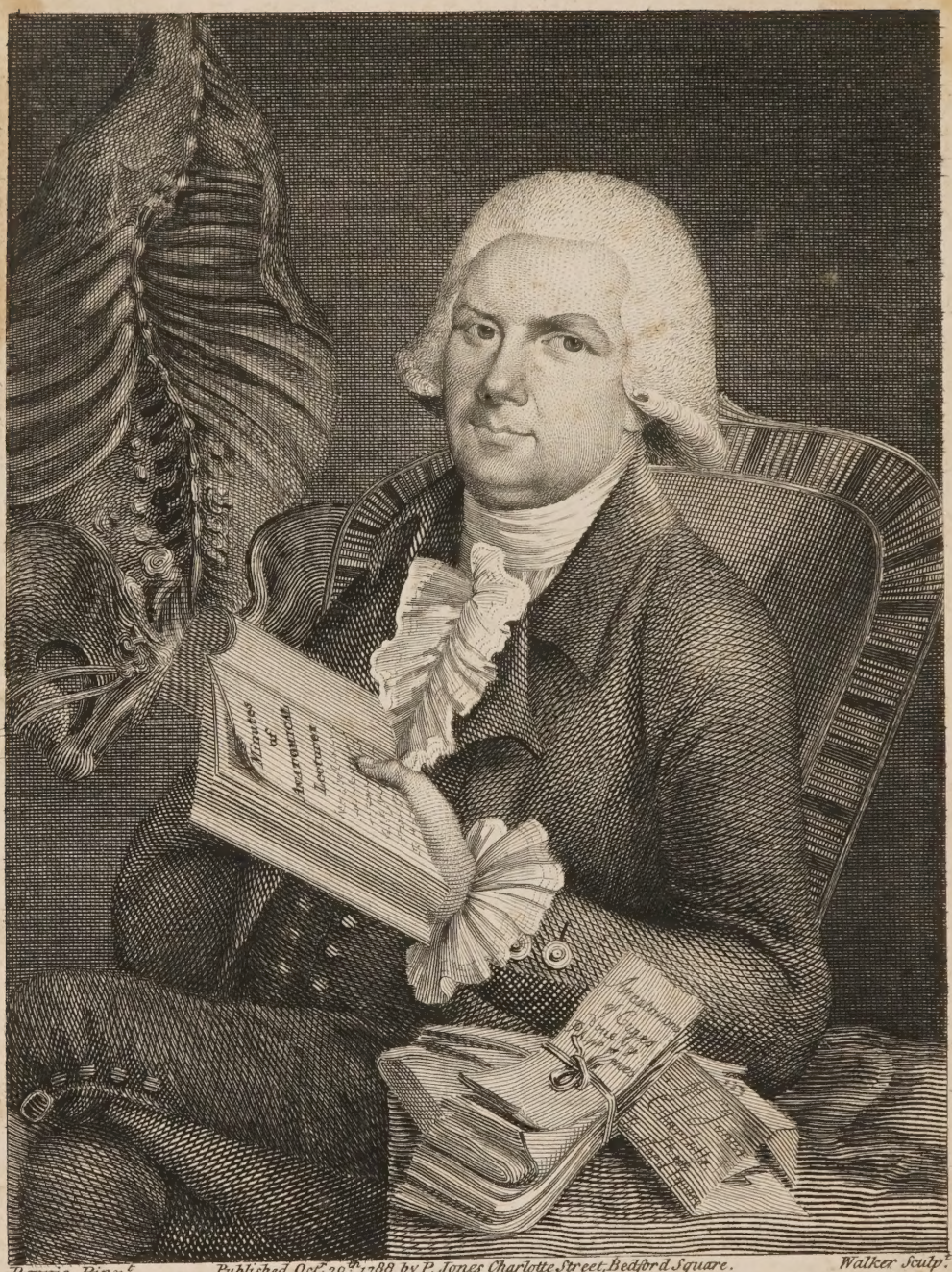

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PHILIP JONES.

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Edwd Routledge

AN

ESSAY

ON

CROOKEDNESS,

OR

DISTORTIONS OF THE SPINE;

SHEWING

The Insufficiency of a Variety of Modes made Use of for Relief in these Cases;

AND

Proposing Methods, Easy, Safe, and more Effectual for the Completion of their Cures;

WITH

SOME HINTS

For the Prevention of these Affections, and their Disagreeable, Painful, and Dangerous Consequences.

ILLUSTRATED WITH

SEVERAL COPPER PLATES,

TAKEN FROM DISTORTED SUBJECTS.

BY

PHILIP JONES,

OF CHARLOTTE-STREET, BEDFORD-SQUARE.

'Tis better far to die, than crawl thro' life,
Diseases prey—deformed—and wretched.

ANONYMOUS.

LONDON:

Printed for the Author by S. GOSNELL, *Roll's Buildings, Fetter Lane*; and sold by J. JOHNSON, *St. Paul's Church-yard*, and T. CADELL, *Strand*. M.DCC.LXXXVIII.

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I have had many opportunities of seeing good effects from the application of Mr Jones's Stays, & machine, in cases of curvatures of the Back bone; they will not however be proper in all cases, and even in those for which they are particularly adapted, great attention is necessary in the mode of using them. I consider Mr Jones to be a very good judge both of the cases in which they will be proper, and the mode of applying them, and have reason to believe that for his own sake —— he would not chuse to apply them, unless he had considerable hopes of their proving useful

Leicester Sqr
Augst 7th 1788

John Hunter

TO

JOHN HUNTER, Esq.

SURGEON TO THE KING; LECTURER IN SURGERY; ONE OF THE SURGEONS OF ST. GEORGE'S HOSPITAL, AND F.R.S. &c.

SIR,

WHERE men conscious to themselves that they are in possession of any invention, which promises to be useful to mankind—where they have had incontestable proofs from the experience of many years, that it will be productive of essential benefit to their fellow creatures, it is their duty to make such invention as public as possible; not by the

oſtentatious parade of high-ſounding words, faſhioned by ſelf-conſequence, and pregnant with fulſome ſelf-adulation, but by plain facts fairly recited, and ſupported by the ſolid arguments of ſound and modeſt reaſon. It is on theſe principles I preſume to launch myſelf forward into public notice; prepared to ſtand the trial of a candid examination; building my pretenſions to public favor only on the firm foundation of faithful experiment. Thus ſituated, to whom, Sir, could I apply for patronage, but to one who has ſpent his life, unwearied, in medical purſuits; who has enriched the ſcience, in his own departments, with ſo many uſeful diſcoveries; who, with a laudable fortitude, dare contradict long-received opinions, not founded on the baſis of truth; and who is bleſſed with ſuch

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ingenuouſneſs and philanthropy, that he cannot refuſe his aid to induſtry and ingenuity, when he ſees them ſtruggling in the vale of obſcurity. Theſe, Sir, are ſufficient incentives to an honeſt mind; but I have ſtill a ſtronger; the tribute of gratitude from me is due; for, approving my plan, you have not ſordidly forborn the confeſſion; but where you have conceived it might be uſeful, have ſupplied me with opportunities of repeatedly proving the juſtneſs of your conception: and by a conduct ſo candid and exemplary, have baniſhed infirmity from the body, and dejection from the ſpirits of many, who now enjoying the delicious ſweets of blooming health, in the midſt of their felicity, cannot forget the author: nor ſhall I, ever, the various proofs you have given me of your con-

deſcenſion. The grateful heart overflows with joy at the reflection of the benefits it has received, thirſts for, and ſnatches at every occaſion to acknowledge its obligations—irreſiſtible is its power—I feel its force—and flatter myſelf, you will attribute to theſe impulſes, the pleaſure which I now take in humbly laying the following ſheets before you, and thus publicly ſubſcribing myſelf, with all due deference, regard, and gratitude,

SIR,

Your moſt obliged

and devoted ſervant,

P. JONES.

PRE-

PREFACE.

IT may perhaps be thought neceſſary, that I, who follow the buſineſs of ſtay-making, ſhould give ſome account how I firſt thought of attempting to cure a diſeaſe, which had ſo long puzzled the moſt eminent men of the faculty; and by what means I became qualified to enſure ſucceſs in many caſes; leſt the world ſhould conſider my pretenſions founded more on mere preſumption, than any knowledge which might authorize me to purſue a buſineſs ſo apparently incompatible with my avocation. But however this idea may have influenced the minds of many, to think unfavourable of me with

with reſpect to this buſineſs, I muſt confeſs, that it was that very avocation, which ſupplied me with the opportunity of ſeeing the human frame variouſly diſtorted; led my invention to different kinds of contrivances to hide the defects of form from the obſerving eye, and conſider, as well as I could, the cauſe from whence it originated. Long did I wander in the dark, till one circumſtance began to clear away my ignorance, and convince me that diſtortions deduced their origin from incurvations of the ſpine; for on attending a young delicate weakly lady, who was deformed, in the preſence of a ſurgeon, he elevated the body by the head, and during that ſtate of elevation, I found her form became almoſt perfectly ſtraight. I was then ſtruck with the thought, that if ſhe could be kept continually in this poſition, till ſhe grew older, and conſequently ſtronger, every obſtacle would be removed. Vari-

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ous were the inventions I made uſe of, which often were attended with ſucceſs; yet ſtill not ſatisfied with being defective in anatomical knowledge, as I thought a thorough information, with that part of the human machine, would aſſiſt me in forming my ideas more perfectly with reſpect to the nature of the diſeaſe, and enable me to improve the plan I had already adopted; I attended Dr. William Hunter's, and other anatomical lectures; by which means, becoming converſant with the various parts, particularly thoſe of the ſpine; knowing its ſtructure, action, and dependencies; viewing it conſtantly in a ſtate of health, and oftentimes of diſeaſe: beſides becoming acquainted with the modes made uſe of in the animal œconomy for the formation of bone; and to knowledge thus acquired, adding practical obſervation, I fell upon the method which is the ſubject of the ſubſequent work; and of which long

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experience has confirmed the utility: but how far it may be conſonant to right reaſon, how fully it is ſupported by experience, I muſt leave to the determination of thoſe, who will honor me with the peruſal of my work; and condeſcend, on minute inveſtigation, to let, in their deductions, candour be the pilot.

Sir In answer to your request, and in justice to you and indeed to the Public, I hereby attest that, in several Cases of Deformity from Curvature of the Spine, the Patients have, even in the short time you have resided here, received relief and benefit from the Application

Sir In answer to your request, and in justice to You and indeed to the Public, I hereby attest that, in several Cases of Deformity from Curvature of the Spine, the Patients have, even in the short time You have resided here, received relief and benefit from the Application of Your Machinery; and it appears to me, that there are just grounds for believing, that they may derive still more material advantages, from continuing to wear it.

I am Sir

Edinburgh Your obed.t Serv.t

Oct.r 7. 1789. Alex.r Monro

For Mr Jones

AN

ESSAY

ON

DISTORTION, &c.

AMONGST the number of diſeaſes which afflict the human body, there are few attended with more diſagreeable conſequences, and which appear to have been more neglected, than that which is the ſubject of the following ſheets. Why it has been ſo much diſregarded is not eaſy to conjecture, unleſs from the unſucceſsful attempts which have been repeatedly made by many, having occaſioned it to be conſidered as incurable; and perhaps from the contempt of modes, which, becauſe they were ſimple and merely mechanical, have been thought inadequate to produce the deſired effects. However, we ſhall in the courſe of the ſubſequent work

prove, by the moſt uncontrovertible teſtimonies, that cures have been performed in caſes apparently the moſt deſperate. The diſeaſe we advert to is, THE DISTORTION OF THE SPINE; which not only gives a moſt unpleaſing appearance to the human machine, but is productive of a variety of complaints, painful in their progreſs, often embittering life, and fatal in their conſequences, taking off numbers at a very early period. Theſe facts are ſo well eſtabliſhed, that we need not make uſe of any argument in proof. Diſagreeable and unhappy as are the effects deducing their origin from this cauſe, is it not rather aſtoniſhing to ſee parents ſolicitous in arranging the teeth of their children in regular order; hunting out, what is termed, the moſt faſhionable dentiſt; and neglecting the form of the machine; ſuffering it to become twiſted and in various ways diſtorted, by which means the healthful efforts of nature are retarded, perverted, or deſtroyed; and thoſe particular operations which ſhould be conducted properly for the well-being of the animal, ſo irregularly carried on, that diſeaſe in various forms becomes the conſtant aſſociate of theſe miſerable beings.

But before we enter fully on our ſubject, as this work may fall into the hands of many who have

have not made anatomical inquiries any part of their purſuit, we ſhall ſay ſomething briefly on oſſification, and nature of the ſpine; as on a thorough knowledge of this laſt muſt our ſucceſs in caſes we undertake to relieve, be in a great meaſure founded. "Bones," ſays Dr. MONRO, "however ſolid and compact they are "in adults, were once cartilages, membranes, "nay a mere gelly;" *and indeed it is univerſally allowed, that in their formation they are made of an earthy, depoſited in a gelatinous matter from the exhaling arteries.* "With regard to their ſoft "primitive ſtate, there needs no other proof, "than repeated obſervations of embryos when "diſſected. By degrees they become ſolid, then "aſſume the nature of griſtles, and at laſt oſſify; "which is brought about partly by the bones "being more than other parts expoſed to the "ſtrong preſſure of the great weights they ſup-"port, to the violent contraction of the muſ-"cles fixed to them, and to the force of the "parts they contain, which endeavour to make "way for their further growth. By all this "preſſing force the ſolid fibres and veſſels of the "bones are thruſt cloſer, and ſuch particles of "the fluids conveyed in theſe veſſels as are fit to "be united to the fibres, are ſooner and more "firmly incorporated with them, while the re-

" maining fluids are forcibly driven out by the
" veins to be mixed with the maſs of blood."

And " It is alſo probable that oſſification de-
" pends on the veſſels of the bones being ſo diſ-
" poſed and of ſuch diameters, as to ſeparate a
" liquor, which may eaſily, when deprived of
" its thinner parts, turn into a bony ſub-
" ſtance.

" That the oſſifying of bones does depend
" much on preſſure, ſeems to be evinced from
" the frequent examples we meet with of other
" parts turning bony, when long expoſed to
" the compreſſing force of the ſurrounding parts;
" or when they are ſubjected to the like circum-
" ſtances by their own frequent and violent con-
" traction; witneſs the bones frequently found
" near the baſe of the heart in ſome old men
" and in ſeveral other creatures. The cartilages
" of the larynx are generally oſſified in adults.
" In beaſts of burden, the cartilages between the
" vertebræ of the back and loins very often
" change into complete bones, and, being inti-
" mately united with the vertebræ, the whole ap-
" pears one continued bone. And the oſſification
" may alſo depend in a great meaſure on the other
" cauſe above recited, ſeems plain from the ob-
" ſervation

" ſervation of the callous matter ſeparated after " fractures and ulcers, where part of the bone is " taken out; for in theſe caſes this liquor har- " dens and often cements the two extremities " of a bone though at a good diſtance from each " other."

From all which it appears clear, that in order to produce oſſification, and render the bones properly compact and ſolid, there are three requiſites neceſſary in the conſtitution, viz. a ſufficient quantity of oſſific fluid in the habit, a peculiar diſpoſition of the veſſels of the bones and of their diameters, and ſtrong muſcular and vaſcular action.

Dr. HUNTER, who adopted the opinion of Dr. NESBIT, conſiders the bones as a new ſubſtance produced, which ſhoots from different beds; ſome from membranes, as the bones of the head; ſome from cartilages, as the oblong bones; and that they bear the ſame form in the ſtamina, and when adult. Uniform bones beginning in the middle to oſſify, and ſhooting towards the extremities by one oſſification; irregular bones having many to haſten the completion, as the bones of the cranium, &c. and as they increaſe in oſſification, they loſe their cartilaginous and

membranous ſubſtance. Here then have we the idea of this new or bony ſubſtance ſhooting like ſalts; and by the union of the particles, forming fibres, which conjoined occupy ſuch ſpace, and put on ſuch appearances, as are allotted them by the Divine Diſpoſer of all things, properly adapted to their particular uſes by the plaſtic hand of Nature.

In one or other of theſe ways are the whole bones of the machine formed; amongſt the number of which, it only belongs to us to advert to the SPINE or VERTEBRÆ.

Theſe are divided into true and falſe. The true vertebræ are *twenty-four in number*, viz. *ſeven* in the neck, *twelve* of the back, and *five* of the loins. Each vertebra is compoſed of its body and proceſſes. *The body* is the thick anterior part, which is convex before and concave behind, and moſt horizontal and plain both above and below. The ſurfaces of two contiguous vertebræ are covered with a *cartilage*; there is *a ligament* compoſed of concentrical curved fibres, which is firmly attached to the horizontal ſurface of the vertebræ, beſides which there is a *ſtrong ligament*, which lies between the edges of the vertebræ, whoſe fibres decuſſate each other in the form of an X. From

each

each ſide of the body of each vertebra, *a bony ridge* is produced backwards and to a ſide; from the poſterior extremity of which, *one ſlanting proceſs* ariſes, and *another* deſcends; the ſmooth ſide of each of theſe four proceſſes, which are called the *oblique*, is covered with a cartilage; and the two inferior oblique proceſſes of each vertebra are articulated with the two ſuperior oblique proceſſes of the vertebra below. From between the ſuperior and inferior oblique proceſſes of each ſide the vertebra is ſtretched out laterally, and forms a proceſs called *tranſverſe*. From the poſterior root of the two oblique, and of the tranſverſe proceſs on each ſide, *a broad oblique bony plate* is extended backwards; where theſe meet, the *ſpinal* proceſs riſes and ſtands out backwards. *Theſe ſeven proceſſes* form the poſterior parts of the vertebræ, and are hollow at their anterior middle part, which cavity, joined with that on the back part of the bodies, make *a great canal* which anſwers to another in the vertebra above and below, for the *medulla ſpinalis*. There are *two ſemicircular notches* belonging to each vertebra, which coincide with two ſimilar notches in the adjoining vertebra; through theſe foramina, which are placed immediately behind the body of the vertebra, the *ſpinal nerves* paſs out.

The CERVICAL VERTEBRÆ are concave above and convex below; they are flat forward and behind. Their *ſpinal proceſſes* are bifid, to allow a more convenient inſertion for muſcles. The *tranſverſe proceſſes* are ſhort and generally bifid, the root having a hole for the ſecure paſſage of the vertebral artery and vein. The *oblique proceſſes* are quite horizontal. The rotatory motions of the head are not entirely performed by the firſt and ſecond vertebræ, as is moſtly imagined, but they are greatly aſſiſted by the reſt of the ſpine; for the rotation of any two vertebræ is inconſiderable; yet it is not ſo when we conſider them altogether; beſides, if this rotation was betwixt the firſt and ſecond only, as we are capable of rotating the head a quarter of a circle, ſo great a degree of motion would have deſtroyed the ſpinal marrow of that part.

The DORSAL VERTEBRÆ are of a middle ſize betwixt the cervical and lumbal, and are flattened laterally by the preſſure of the ribs, which are inſerted into ſmall cavities in the ſides of theſe vertebræ. *The ribs* are articulated betwixt two vertebræ, except in the *firſt*, *eleventh*, and *twelfth*, where the cavity for their reception is entirely formed in the ſame vertebræ.

The

The LUMBAR VERTEBRÆ are larger than the others; the *cartilages* between them are thicker, and the *ſpinal* and *oblique* proceſſes ſtronger; which is neceſſary, as they have a greater quantity of motion, and are the moſt expoſed in injuries offered to the ſpine. The FALSE VERTEBRÆ are divided into two bones, the *os ſacrum* and *os coccygis*; theſe are diſtinguiſhed from the former by this epithet of falſe, becauſe though each bone reſembles the true vertebræ in figure, yet none of them partake of their uſe of ſerving in the motion of the trunk of the body, all of them being intimately united except at one part, where there is a moveable joint; whence the common diviſion of theſe falſe vertebræ into two bones, os ſacrum and os coccygis.

From this account of oſſification and the ſpine, with its cartilages and connecting ligaments, agreeable to the opinion of Dr. Monro, and other anatomiſts, we can eaſily deduce an account of all the different curvatures of the ſpine which uſually occur: for if one or more vertebræ are of unequal thickneſs in oppoſite ſides, the ſpine muſt be reclined over to the thinner ſide; which now ſuſtaining the greateſt ſhare of the weight, muſt ſtill be more compreſſed, conſequently hindered from extending itſelf in proportion to the other ſide, which

which being too much freed of its burden, has liberty to enjoy a luxurious growth. The cauſes on which ſuch an equality of thickneſs in different ſides of the vertebræ depend, may vary; for either it may be owing to an over-diſtenſion of the veſſels of one ſide, and from thence a preter-natural increaſe of the thickneſs of that part; or which more commonly is the caſe, it may proceed from an obſtruction of the veſſels by which the application of proper nouriſhment to the bony ſubſtance is hindered, whether that obſtruction depends on the faulty diſpoſition of the veſſels, or fluids; or if it is produced by an unequal mechanical preſſure, occaſioned by a paralytic weakneſs of the muſcles and ligaments, or by a ſpaſmodic overaction of the muſcles on any ſide of the ſpine, or by a perſon's continuing long, or putting themſelves frequently into any particular poſture declining from that which is erect. In all theſe caſes, one common effect will follow, viz. the vertebræ turn thick on the ſide where the veſſels are free, and remain thin on the other ſide, where the veſſels are ſtraitened, or obſtructed. Whenever any morbid curvature is thus made, almoſt neceſſarily a ſecond turn, but in an oppoſite direction to the former, muſt be formed; both becauſe the muſcles on the convex ſide of the ſpine being ſtretched, muſt have a ſtronger natural contrac-

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tion to draw the parts to which their extremities are fixed, and that the patient will make efforts to keep the center of gravity of his body perpendicular to its baſe, that the muſcles may be relieved from a conſtant violent contractile ſtate, which always creates uneaſineſs and pain.

When once we underſtand how theſe crooked ſpines are produced, there will be little difficulty in forming a juſt prognoſis of our patient's diſeaſe, and a proper method of cure may be contrived, which muſt vary as to internal medicines, according to the different cauſes on which the diſeaſe depends; but ONE GENERAL INDICATION muſt be purſued, which is, to counteract the bending force by diminiſhing the compreſſion on the concave ſide of the curvature. The manner of executing which, in particular caſes, muſt be very different, and requires a very particular examination of the circumſtances both of the diſeaſe and patient. In many ſuch caſes ſome ſimple directions as to poſtures in which the patient's body ſhould be kept, have been of infinite advantage.

We have here laid down the general doctrine relative to this complaint, ſupported by the opinion of the ſagacious and experienced Dr. Monro, from

from whence the proximate cauſe may be diſcovered, which may be produced by various others more remote; but as our intention is merely to confine ourſelves to mechanical means, either in curing, or aſſiſting in the cure of this complaint, we ſhall only attempt to prove the abſolute neceſſity there is for ſuch applications in all caſes, and ſhew by a number, authenticated by men of character and eminence, the great benefits that have been derived from them.

But in order to prove this more clearly, we muſt advert to the immediate cauſe which, on examination, we find to ariſe from whatever can occaſion the ſpine to be fixed in a direction contrary to what is natural, and that is nearly perpendicular. Now this deviation from the natural poſition ariſes from ſome defect in the connecting ligaments of the vertebræ, or in the vertebræ themſelves; for the former either being partially relaxed, or thickened, or the latter becoming thicker in one part than another in ſome of the vertebræ, or the muſcles belonging to them being ſpaſmodically affected, and poſſeſſing too ſtrong local action, overbalancing the contractile power of antagoniſt muſcles, will give riſe to ſuch a curvature of the ſpine as conſtitutes diſtortion. Some of which may be owing to bad nurſing, fixing continually

nually the body in one poſture, to a ſoftneſs of the bones, called by authors MOLLITIES OSSIUM, to a caries of ſome of the vertebræ, to ſcrophulæ, rickets, long continued illneſs, or, in fine, to whatever will debilitate the ſyſtem too greatly, eſpecially in the early periods of life, before the vertebræ have become ſufficiently ſtrong to bear the weight of the ſuperincumbent parts, from not having received their due proportion of oſſific matter, or by having part of that matter waſted, or rendered ſo fluxile, that part of it is abſorbed again into the ſyſtem, and the vertebræ left in too ſoft a ſtate; or to the muſcles acting in ſome parts too freely, by which means the ſpine is bent in ſome particular direction, and a greater preſſure being formed on one part than the other, the cartilaginous ſubſtance is rendered thicker in one part than another, and conſequently the oſſific matter will be depoſited more freely on that part where there is the greater freedom from preſſure, and occaſion the vertebræ to be ſo formed, that one ſide will be more elevated than the other, and of courſe a curvature of the ſpine will be occaſioned, and remain in that form, if the affection is not remedied before the ligaments and bone have arrived at their utmoſt ſtate of perfection.

Now

Now when the ſpine is relaxed and rendered very weak from any cauſe, the patient cannot ſupport the head and parts above where the curvature takes place with ſufficient eaſe, but ſeeks relief by leaning on tables, chairs, &c. and ſtands generally on one leg, which increaſes the twiſt of the ſpine, ſo that this of courſe takes its ſhape according to the poſition the body is put into, and that will be various, occaſioned, as it is thought, either from inattention or indolence; but which, in fact, ariſes from a ſolicitude in finding out the moſt eaſy poſture, which when found, becomes the favourite one, and is moſt frequently uſed: and this diſtortion will be in a greater or leſs degree in proportion to the weakneſs of the frame, the ſoftneſs of the bones, and the indulgence in particular poſtures; and continue permanent, without relief can be obtained before they arrive at the age of twenty; for it is only within this period we can hope to remedy the inconvenience. Here though is given the utmoſt limits, for it is generally found that cures are extremely difficult to relieve beyond the age of eighteen; yet in one or two above that period my endeavours have been fortunate; but the earlier the attempt the more certain is ſucceſs; for it is obſervable, that thoſe who are in the moſt diſtorted ſtate at the time of manhood, were very ſlightly ſo in infancy, which

it

it is more than probable might have been totally prevented, had proper care and attention been paid to them in their earlier years, and themſelves preſerved from the infelicity of dragging out a weary and miſerable exiſtence.

Still notwithſtanding, it is beyond a doubt, that a well-formed ſpine is the ſupport and fulcrum for the proper direction of the different motions of the muſcles neceſſary for the attitudes of the machine; yet to give them theſe advantages, two properties in the ſpine are requiſite, STRENGTH and PLIABILITY, both which the all-wiſe Author of Nature has beſtowed after a wonderful manner, by making it conſiſt of a number of pieces, as we ſee, exactly adapted to each other; firmly and ſtrongly conjoined; which junction is more cloſe than in any other joints of the body. Still in delicate habits we find, after long confinement in bed from illneſſes, ſuch as fevers, meaſles, ſmall pox, &c. the habit will be much relaxed, the vertebræ and cartilages expanded, and a greater ſpace left between them; all which are made obvious from the increaſe in height of the ſtature of children after ſuch indiſpoſition; hence this ſtrength and firmneſs then will be impaired, eſpecially in younger ſubjects, becauſe the vertebræ are not oſſified, nor the cartilages become ſo firm as in adults. Under ſuch cir-

circumſtances from ſtanding or ſitting up, the ſpine is diſpoſed to ſink under its weight, and become curved, if great care is not taken with ſuch children: which curvature, was it to be ſimple, and remain in one reclining ſtate, would occaſion the body to lean on one ſide; but by the efforts of nature endeavouring to aſſiſt herſelf, there is generally formed another, as delineated *in plate the firſt*, in which we diſcover the ſtate of the diſtortion. The lumbar have a different inclination to the dorſal vertebræ, hence is the body ſhortened; the ribs recline in proportion to the turn of the ſpine to the ilium; the ſhoulder is elevated, and appears, as many think, bigger; as does alſo the hip, occaſioned by the ſpine being out of the center, and whichever way it turns, has the appearance of the ſhoulder and ilium being larger. This diſtortion is eaſily diſcovered by the ſhortneſs of the body compared with the length of the extremities; for the elbows, inſtead of falling down as low as the waiſt, are lower in proportion to the twiſt of the ſpine; and on that ſide which ſinks in, the ribs are generally crouded together, and in ſome cloſe to each other, as *in plate the ſecond*. In ſome the lungs on the oppoſite ſide cannot poſſibly act in reſpiration, but with extreme difficulty, if at all, being ſo confined by the acute angle formed by the ribs on that ſide.

A young

A young lady twelve years old, in whom the diſtortion of the ſpine had been increaſing for ſome years, fell under my care. The left ilium was totally hid by the falſe ribs; the dorſal vertebræ ſo greatly curved, that ſome of them were intirely under the ſcapula, that they could not all be traced. After a few months attendance, ſhe told me, that ſhe had got a new hip, for ſo ſhe expreſſed herſelf, which was the re-appearance of the hip from the elevation or extenſion of the ſpine; which continued to increaſe till at length the hip formerly covered was equal to the other: the ſpine alſo was brought from under the ſcapula in a more direct line, as when ſituated in the center, to which ſucceeded the natural poſition of all the other parts, and a reſtoration of her health, which before was greatly impaired from this cauſe.

But we are not to imagine that this is the ſingular mode in which diſtortion takes place, the appearances vary according as the ſpine takes its turn from the center. Suppoſe the lower part of the ſpine turns obliquely towards the left, as it uſually does, part of the abdomen and falſe ribs reclines by degrees. In ſome it covers that hip, which makes the appearance as if the hip ſunk in, and the right hip greatly unequal. In ſome the

ilia without projecting, appear to turn one before the other, the vertebræ of the loins, and os ſacrum determining the poſition of the hips.

But where the body of the vertebræ are conſumed by abſorption, &c. the ſpinal proceſſes, which Divine Wiſdom formed for the guard and defence of the ſpinal marrow, projects outwards and inclines the body forwards.

If the diſtortion is in the neck, the head will of courſe bend forwards, but by the power of the muſcles the patient will be enabled to hold his head back. Theſe often proceed from external injuries, as from falls, blows, &c. and ſhould this miſchief occur in the upper vertebræ of the neck ſo as to cauſe a ſeparation of the intercoſtal nerves, death inſtantaneouſly enſues. In proof of which, we have two caſes, which happened near Briſtol. Two men both fell from a hayſtack, and by the violence of the fall in one, the ſeparation took place in the upper, in the other, I think, between the third and fourth vertebræ: in the former the intercoſtal nerves, which run to the diaphragm, were divided: inſpiration ceaſed, and he died ſuffocated: in the other a paralyſis enſued, and he lived only a few hours. Theſe vertebræ are curiouſly preſerved in ſpirits by Mr. Smith, ſur-

ſurgeon at Briſtol: and we muſt obſerve, that ſuch fatal cataſtrophes muſt ever be the conſequences, where injuries ſo violent happen to theſe nerves, on which depend life and motion. If the injury is formed lower down in the ſpine, it may deprive the patient of motion in the parts below, but not of life.

A diſlocation of the upper vertebræ of the neck cannot happen without great violence being done to the phrenic and intercoſtal nerves, and thoſe called par vagum, (which are connected with the diaphragm, a part of the machine ſo important to life, that the great philoſopher BUFFON called it the ſeat of the ſoul) and alſo the ſpinal marrow, which claims no ſmall ſhare of conſequence in the conduct of the animal œconomy; and ſhould this be diſplaced, almoſt at its very commencement, an infinite number of parts are eſſentially injured. Hence we ſee, though both theſe parts of the ſpine are of ſuch moment to the machine, that the degree of fatality from injuries happening to one or the other is very different; the reaſon of which is obvious; becauſe the parts dependant on one are more immediately concerned in the preſervation of life than the other: and though the injuries their dependant parts may ſuſtain, are ſimilar reſpecting themſelves, abſtractedly

conſidered, yet collectedly with the machine, their importance is widely diſſonant; for whenever the ſpine is wounded ſo as to affect the nerves, either by accident or diſeaſe, all the parts ſupplied with theſe nerves below the wounded part, loſe their ſenſation and voluntary motion; but theſe parts are not eſſentially neceſſary to life, therefore the animal ſtill exiſts; but when the intercoſtal nerves, and thoſe ſerving the diaphragm are impeded in their function, ſuffocation enſues; becauſe the diaphragm and intercoſtal muſcles ceaſe to act, and cannot expel the air from the lungs; hence is a ſtop put to circulation of the ſanguinary maſs, of which death muſt be the inevitable conſequence. For this diſcovery we are obliged to Mr. J. Hunter, ſurgeon, as obſerved by Mr. Cruikſhank, anatomiſt; who, when lecturing on this part of the machine, ſays, that Mr. J. Hunter made the following experiment; he divided the nerves of the upper vertebra of the neck and intercoſtal nerve, which runs to the diaphragm in a dog, on which the animal inſtantly expired from ſuffocation.

In caſes where the body of the vertebræ is waſted, from whatever cauſe, its firſt outward appearance is occaſioned by the proceſſes of the affected vertebra, projecting about the ſize of a hazle nut; which gradually increaſes, as the ſtate of the

the vertebra depends upon the nature of the habit, and ſuperincumbent preſſure; for the patient depreſt for want of proper ſupport and aſſiſtance, the baſis of ſuch ſupport giving way from the diſeaſed ſtate of one or more of its parts, the ſuperſtructure of courſe muſt fall; ſo is it in all caſes of diſtortions of the ſpine.

There are ſome caſes of incurvation, which though we cannot attribute them to cold, or ſea bathing, becauſe the curvature has taken place before, ſtill we may look upon this practice as a confirming cauſe; for where the diſtortion has been of any long continuance, after either of theſe meaſures have been adopted the muſcles are contracted; and I have ſeen ſome in which the curvature of the ſpine could be more eaſily removed, than the rigidity of the muſcles conquered. They appeared like tight cords faſtened to the two ends of a bow; the fleſhy fibres ſhortened, and ſeemed to have attained a degree of hardneſs. This practice of bathing diſtorted children, though recommended by many, is highly injudicious, as it contributes more to fix the diſtortion, at leaſt renders it infinitely more difficult to ſubdue.

Curvatures of the ſpine are frequently occaſioned from too great confinement; ſitting long in one

uniform poſture, ſuch as tambour and other frame work; drawing, writing, &c. for frames and deſks on which theſe employments are exerciſed, are in general too low; from whence thoſe that follow theſe purſuits, are apt to bend and twiſt the ſpine, oppreſs the cheſt, and raiſe the ſhoulders; which particular forms in a ſeries of time fix themſelves, eſpecially in thoſe who pay cloſe attention in theſe reclining poſitions. Theſe diſtortions happen moſt frequently in females, on account of the delicacy of their frames, being more ſubject to debility than the other ſex; and devoting themſelves more to a ſedentary life; for cloſe confinement, want of proper exerciſe, and freſh air greatly contribute to weaken the ſyſtem, retard circulation, impede digeſtion, and promote an accumulation of crude and vitiated humors; all which may truly be conſidered as powerful auxiliaries in bringing on this diſeaſe.

Whilſt I am on this ſubject, I cannot avoid reciting a circumſtance of a phyſician and author of ſome conſequence, who had a ſon of about thirteen, of a very weakly and delicate conſtitution; he, inſtead of obeying the dictates of an injudicious fondneſs, conducted himſelf conſonant to the laws of rational prudence; and would not permit his child to be nurſed up in a warm room,

and

and pampered with deſtructive delicacies; but ſent him to a friend, by profeſſion a carpenter, deſiring him to exerciſe his ſon in his buſineſs adequate to his ſtrength, and as much in the open air as conveniently he could. The employment was meant more for amuſement than labor: by theſe means he had the felicity to ſee his ſon recover his health and ſtrength; took him from this employment, and transferred him to the ſchool of phyſic; which art he now practiſes, having enjoyed his health perfectly ever ſince that period. Indeed, from the earlieſt times, exerciſe has been held in the higheſt eſtimation. HIPPOCRATES and GALEN have written copiouſly on the ſubject; and many other authors, enumerated by Mackenzie, even in the cure of diſeaſes. PLATERUS ſays, that Herodius was cured of the hypochondriacal diſeaſe by exerciſe. PAUSANIAS relates, that Hyſmaneus was relieved from great weakneſs of the nerves, by addicting himſelf to the five Olympic exerciſes, and thereby acquired ſuch a degree of vigor, as to obtain many prizes at thoſe games; and PLUTARCH tells us that Laomedon was perfectly cured of an obſtinate diſeaſe by exerciſe, ſo as to excell in running. A patient of Dr. Buchan's was cured of a nervous diſeaſe by digging in a garden: and indeed if we conſider the effects of exerciſe, we ſhall ceaſe to wonder at the great

benefits which accrue from its uſe; for it is well known and univerſally allowed, that exerciſe accelerates the circulation of the blood; invigorates the nervous ſyſtem; gives firmneſs and elaſticity to the muſcular fibres, and ſtrength and pliancy to the limbs; promotes perſpiration, ſecretion and excretion; quickens digeſtion, and is infinitely ſerviceable in the due diſtribution and ſalutary application of the nutritious fluids.

But to return to our ſubject, of all the cauſes of diſtortions or curvatures of the ſpine, I conſider the mollities oſſium, or ſoftneſs of the bone, as the moſt general and frequent. In this caſe it is poſſeſſed of great pliability, and will mould itſelf to any form, or bend without breaking; which will be more or leſs, according to the weight it ſuſpends, or ſuſtains; therefore thoſe in this ſtate which ſupport the greateſt weight, are always moſt bent: and indeed this cauſe is ſo common, that wherever we obſerve a curvature, we may for the moſt part ſuppoſe the mollities exiſting as the predisposing cauſe.

Phyſiologiſts have taken great pains in order to diſcover the true cauſe of theſe appearances; GLYSSON ſays, there is no defect of bony matter in theſe caſes, but that it runs out of its proper direction,

as

as in the ſpine it puſhes beyond the edges of the vertebræ, &c. However, the moſt ſatisfactory hypotheſis ſeems to be; that in ſome part or other of life, from ſome conſtitutional diſorder, there is a deficiency of oſſific matter, whence the bones become ſoft, and thence in conſequence of preſſure, they are diſtorted various ways according to the direction of that preſſure. DISTORTION *therefore may be conſidered as having a ſoftneſs of the bones for the prediſpoſing, and preſſure for the more immediate cauſe.*

From hence then ariſe many and great inconveniences, not only giving an unpleaſing appearance to the whole contour of the human machine, by diſtorting the limbs, and twiſting the trunk in various directions; which hurt the eye, and often raiſe very painful reflections on the mind of thoſe who are the innocent, though unhappy objects; but by differently affecting the more internal parts, bring on innumerable complaints; which continue for life, and too often ſhorten the duration, which otherwiſe would have been allotted to it according to the laws of nature. For as the curvature of the ſpine takes place, ſo do the parts, immediately annexed to it, alter their ſituation in conformity to the courſe it obſerves; and the contents of the thorax, abdomen, and pelvis, which are more looſely

looſely connected with it, from being thrown out of the proper places, from compreſſion and confinement, perform their functions, not with that freedom neceſſary to conſtitute perfect health.

If from this cauſe the capacity of the thorax is diminiſhed, oppreſſive reſpiration, ſanguinary congeſtion, obſtructions, tubercles, dropſies of the breaſt, coughs, conſumptions, palpitations of the heart, polypi, &c. may originate. If of the abdomen, indigeſtion, impeded inſpiration, viſceral obſtructions, ſchirroſities, dropſies, &c. If of the pelvis, obſtinate conſtipations, piles, fiſtula, &c. and in women, parturition is rendered always almoſt tedious, laborious, dangerous, and ſometimes fatal. Beſides, other more general complaints take their origin from this cauſe, impeding the operations of nature in the different organs; and hence occaſioning debility of the ſyſtem, and a vitiated ſtate of the fluids. All which may be eaſily conceived, if we view the ſtate of the aorta, or large artery, which carries the blood from the heart to the extremities, and the minute veſſels of the human machine, as it is delineated *in plate the fifth*; for there we find the aorta running through the thorax, and abdomen taking the ſame curves as the ſpine. Now as fluids cannot circulate with the ſame celerity through ſerpentine, a contrivance

nature

nature has adopted in ſome parts of the body to retard the blood's motion, or diſtorted, as ſtraight tubes, leſs blood will circulate in the lower limbs, more into the ſuperior parts, as the head and lungs; hence will ariſe from one cauſe head-achs, apoplexies, convulſions, pulmonary affections, &c. whilſt, from the other, the blood being in its progreſs retarded, vaſcular debility will be the reſult, occaſioning œdematous ſwellings, varices, &c.

Nor is the mollities oſſium confined to the ſpine, or limbs, or any other particular part; but it ſometimes becomes univerſal, and affects the whole bony compages of the machine. An inſtance of which is extant in the muſeum of the late Dr. Hunter. The caſe occurred in a ſhoemaker of Wapping, in whom the oſſific matter of the vertebræ was abſorbed. The bones of the arms, legs, &c. were ſo pliant, that they bent like green twigs; and, indeed, ſo generally did this ſoftneſs of the bones prevail, that he was at laſt confined to his bed, unable to aſſiſt himſelf for a long time before he died.

Nor is this ſoftneſs of the bones, though the general, the only cauſe of diſtortion; it ſometimes ariſes from a caries; which may deduce its origin, though it begins in their internal parts,

from

from external injuries; as well as from a vitiated ſtate of the animal fluids. When this occurs, it is called SPINA VENTOSA by ſome authors, from the pointed extuberance uſually a concomitant of this diſeaſe of the bone — by others, TEREDO, from carious bones putting on the aſpect of worm-eaten wood. However, this affection is univerſally allowed to take its riſe from matter being formed in the diploe, or in the medulla; for whenever obſtructions are formed in the veſſels expanded on, or terminating in the medullary cyſts, inflammation is the conſequence; and if neglected, or reſolution ſhould not ſpontaneouſly take place, pus will be generated: and hence commences the abſceſſus in medulla, which ſometimes is accompanied with a dull, heavy pain of the affected vertebra, or ſpine.

As this diſeaſe may ariſe from a blow, &c. happening at ſome diſtant period, though not at that time manifeſting itſelf immediately, nor the bone ſhewing any marks of external violence, medicines are had recourſe to, with intent to alter the vitiated juices, the ſuppoſed cauſe of this complaint. However proper may be this attempt, we would beg leave in this place to remark; that every effort ſhould be made to take off the ſuperincumbent weight from the part diſeaſed, and reſtore the

the ſpine to its natural ſituation; for the weight above depreſſing thoſe parts which are diſeaſed, greatly aſſiſts in increaſing the miſchief. If we obſerve the efforts which children make under theſe circumſtances, Nature herſelf, we ſhall find, points out the neceſſity of what we have adviſed; for they labour to take off the load, by ſupporting themſelves on chairs and tables; and when they walk, fixing the hands upon their knees. Thus the diſeaſed part is relieved; which otherwiſe would, from the ſpine being out of the line of direction, be acted upon improperly.

Again; that ſuch ſupport is neceſſary, we may be convinced from obſerving the effects in diſtortions of the vertebræ of the neck from an hydrocephalus, or watery head; for here the ſlender bones of the neck are not able to ſupport the head, which is become too ponderous: ſo that whenever children thus afflicted are deſirous of ſitting upright, the attempt would be in vain, without the head was ſupported by the hand of an aſſiſtant. Indeed, in whatever point of view we take this ſubject; whatever may be the occaſional cauſe, it is obvious the ſupport from preſſure muſt always be attempted; and the ſuperincumbent weight taken off; which, in much the greater number of caſes, prove a remedy;

and

and in all, greatly aſſiſt and co-operate with the uſe of medicines given internally where neceſſary. — And now, as ſeveral opinions have been given by men of eminence on matters relative to this ſubject, we ſhall beg leave to inſert ſome of them here, and ſee how far they may corroborate what we have recommended, or furniſhed obſervations upon.

Dr. John Jebb gives ſome remarks in the following terms: — "In ſeveral patients of a de- "licate habit of body, who have experienced "ſcrophulous complaints, I have obſerved the "joints of the knees to be feeble, ſwoln, and the "articulation painful; alſo, if the ſpine was "ſimilarly affected, many of them evidencing "great ſenſibility upon the gentleſt exerciſe, or "even in a coach; palpitation of heart; incon- "tinence of urine; general debility; and irre- "gular pains in the legs and feet, have acc m- "panied theſe ſymptoms.

"In other inſtances theſe pains have been "termed rheumatic by the patients or friends, "and attributed to the effects of cold. Very fre- "quently are ſome children, nearly about the "ſame age, labouring under ſimilar complaints, "which were, it is reaſonable to preſume, de- "rived from the ſame ſource.

"In

" In ſome, the vertebræ of the loins were
" evidently protuberant; in others, a ſmall de-
" gree of protuberance might be obſerved in the
" vertebræ of the back: in theſe caſes there is a
" conſiderable prominence of the belly, and other
" ſigns of obſtruction in the glandular ſyſtem;
" it is ſuppoſed to be one of the conglobate
" glands, of which many are found in the vici-
" nity of the lumbar vertebræ. In other caſes
" there is ground for ſuſpicion, that the radices
" of the vertebræ, or the intervertebral ſubſtances,
" are primarily affected with the ſame ſcrophu-
" lous diſpoſition inducing this diſtemper, which
" is known ſo frequently to affect the acetabu-
" lum of the thigh. The paralyſis of the lower
" extremities has a debility in the functions of
" the bladder and rectum, which takes place
" when the ſpine is the ſeat of ſcrophula, and
" are the mere effects of the diſorder occu-
" pying the vicinity of large portions of that
" ſubſtance, which is the proper ſeat of ſenſibi-
" lity and voluntary power."

Mr. Potts ſays, in his Obſervations on the Curvature of the Spine being diſcovered:—

" In infants and children, and thoſe who had
" been afflicted with this diſorder but a ſhort
" ſpace

" ſpace of time, that the ligaments connecting
" the vertebræ, which formed the curve, were
" in ſome degree altered from a natural ſtate, by
" being ſomewhat thickened and relaxed; and
" that the body of theſe bones were palpably
" ſpread and enlarged in their texture, juſt as the
" bones forming the articulation are in children
" who are called rickety: that in thoſe who had
" long laboured under the diſtemper, and in
" whom the ſymptoms were aggravated, what-
" ever might be their age, the cartilages were
" ſtill more ſpread, and more enlarged, and more
" inclining to become carious; and the cartilages
" between the bodies of the vertebræ much com-
" preſſed and leſſened in ſize: and that in all thoſe
" who had ſo long laboured under the diſeaſe,
" as to have been deſtroyed by it, or by its con-
" ſequences, the corpora vertebrarum were com-
" pletely carious, the intervening cartilages totally
" deſtroyed, and a quantity of ſanies lodged be-
" tween the bottom baſes and the membrane in-
" veſting the ſpinal marrow."

And farther remarks; " When it attacks a
" child who is old enough to have walked pro-
" perly, its awkward and imperfect manner of
" uſing its legs is the circumſtance which firſt
" excites attention; and the incapacity of uſing
" them

" them at all, which ſoon follows, fixes that at-
" tention that alarms the friends.

" If the incurvation be of the neck, the child
" finds it inconvenient and painful to ſupport its
" own head, and is always deſirous of laying it
" on a table, or pillow, or any thing to take off
" the weight.

" If the affection be of the dorſal vertebræ,
" there are general marks of a diſtempered habit;
" ſuch as loſs of appetite, hard dry cough, labo-
" rious reſpiration, quick pulſe, and diſpoſition
" to hectic; and as in this ſtate of the cure there
" is always, from the connection between the ribs,
" ſternum, and ſpine, a great degree of crooked-
" neſs of the trunk; theſe complaints are by
" every body ſet to the account of the deformity
" merely.

" In a caſe where no violence has been com-
" mitted or received, ſome will tell you, that the
" firſt intimation was a ſenſe of weakneſs in the
" back bone, accompanied with what ſome will
" call a heavy, dull kind of pain, attended with
" ſuch a laſſitude, as rendered a ſmall degree of
" exerciſe fatiguing. In infants the curve is ſel-
" dom noticed, till it has got to ſuch a ſize and

" ſtate as to demand attention ; from the defor-
" mity, previous to this, all the marks of a diſ-
" temper which appear in the child paſs for the
" effects of general weakneſs, and are treated as
" ſuch differently, by different people, and under
" different circumſtances, but never with any
" permanent good effects. Weak and delicate
" children are the moſt frequent ſubjects of this
" diſtemper ; and when in theſe it ſeizes on the
" dorſal vertebræ, great deformity of the trunk,
" both before and behind, is the almoſt inevitable
" and neceſſary conſequence : this though will be
" different in different perſons. The primary and
" ſole cauſe of all the miſchief is a diſtempered
" ſtate of the parts compreſſing or in immediate
" connection with the ſpine, tending to, and moſt
" frequently ending in a caries of the body, or
" bodies of one or more of the vertebræ."

Dr. HUNTER, whoſe lectures I attended, and from whence I received no ſmall information, in ſpeaking of the diſtorted ſpine, adverts to that diſeaſe called the RICKETS, and ſays, " It is abſurd
" to think this a new diſtemper, and that it only
" began in the laſt century, we have inſtances of
" it in every age ; and it has been obſerved by all
" hiſtorians, that this diſeaſe makes its appearance
" outwardly, and may be ſeen and underſtood by

" men

" men of common ſagacity without anatomical
" knowledge. The rickets appear in children at
" different periods of age, but particularly in thoſe
" who are very young. In this diſeaſe ſome of
" the diſtinguiſhing marks are a thickneſs of the
" joints, the fontanel expanded, a largeneſs of
" the head, and thoſe who are afflicted are inac-
" tive. When we examine the joints, one of the
" ſtrongeſt proofs is, if there ſhould be a thick-
" neſs in thoſe of the radius and ulna, appear-
" ances like knots upon the extremities of the
" ribs, &c.; the fontanel continues long open,
" the head not only large but remarkably ſquare,
" and they are backward in teething. On diſſec-
" tion of theſe ſubjects, we find the bones ſoft
" and ſpungy, ſo much ſo, that they can be
" eaſily cut with a knife; which when we ex-
" amine with more care, we find in them a de-
" gree of tranſparency, even in the middle of
" cylindrical bones, and they are alſo more cel-
" lular. The bowels are large and weakly, and
" oſſification is ſlowly completed."

Du Hamel is of opinion, that the exuberancy of growth more on one ſide than the other, is owing to a diſpoſition of the body to throw out more nouriſhment.—Mayis attributes it to the antagoniſt muſcles.—In diſſecting ſuch ſubjects we

find in them but little bony matter, and in general their conſtitutions are in a ſtate of debility: ſome we find univerſally crooked.—The Dr. ſhews the buſt of a woman in whom every rib had been fractured, ſome more than once, occaſioned by the moſt trifling cauſe, which were all again united; and brings this in proof of the extreme ſoftneſs of the bones in that ſubject; ſimilar to that of the ſhoemaker of Wapping, whom we have before mentioned. He endeavours to refute the idea of this diſeaſe being occaſioned by the prevalency of muſcular motion alone: on this conſideration, that when once the ſpine gets an inclination to one ſide, one curve produces a ſecond, &c. which would not be the caſe was it owing ſingly to muſcular action; for then the ſpine would only be curved in one place, towards that ſide or part where the muſcles exerted their action the moſt forcibly, ſo as to exceed the power of thoſe which were intended to operate againſt and counteract them.—In conſidering the nature of this diſeaſe, whether it ariſes from preſſure, or is occaſioned by an hereditary, ſcrophulous, or venereal taint, he concludes the prediſpoſing cauſe a conſtitutional ſoftneſs of the bone.—In ſpeaking, therefore, of the treatment of weakly children, he adviſes to give them ſtrength by the uſe of the bark, ſea bath-

bathing, and ſea air; and conſiders cold bathing, * if properly attended to, almoſt a ſpecific, and the uſe of proper inſtruments, amongſt which he gave the preference to my apparatus; and on which, after he had permitted me to explain its action to above a hundred pupils at his lectures, in the years 1776 and 1777, he makes the following animadverſion: "You ſee, Gentlemen, that this "mechanical contrivance not only takes off the "ſuperincumbent weight, but extends the ſpine "in a conſtant gradual progreſſion; and thus, "continued for a time until by a proper depoſition "of oſſific matter into the mollified vertebræ, they "become firm and compact bones: hence then "the ſubject will be made ſtraight, and remain "in that ſituation; for there is a diſpoſition in "nature always to help herſelf when oppreſt, if

* With reſpect to cold bathing, whatever may have been ſaid in its favour, I muſt obſerve, that I have in general found it moſt adviſeable to conquer the ſpinal defects firſt before we apply to this corroborant remedy, for the parts affected yield more readily to the extenſive powers applied, when in a relaxed ſtate. In ſome caſes, where the cold bath has been prematurely made uſe of, I have found it difficult to make any progreſs with my patients, and have been obliged to have recourſe to the vapour bath, and other relaxing remedies. But this is not the caſe in all, in ſome very delicate habits, at proper times cold or ſea bathing is uſeful, and where bathing has been improper, the ſea air has appeared extremely beneficial.

" ſhe is aſſiſted or relieved by art." And in proof of the ſucceſs of this apparatus, he produced an account of it, from Dr. Baſard, with reſpect to his ſon (which letter is inſerted in this work. He ſtill further obſerves, that though in many caſes the ſpine may be exceedingly compreſſed, and no paralyſis be the conſequence, yet ſtill it takes place in compreſſions of the ſpinal marrow, and induces that diſeaſe called *paraplegia*, or palſy of the lower extremities; which complaint, if it comes on gradually, is certainly owing to ſuch preſſure; and here there appears not any remedy equal to this contrivance, which may be called the apparatus ſpinalis extendens: and, in fine, in all caſes of diſtortion, we have every reaſon to expect ſucceſs from its application, particularly if it is made uſe of at an early period, for all people become crooked after birth—no child, except monſters, being born in a ſtate of deformity. From whence it is clear that this diſeaſe is owing to ſome debility or morvid affections taking place, occaſioned by accidental cauſes, and may be, for the moſt part, entirely conquered or relieved, as far as the conſtitutional ſtamina will permit.

We have enumerated amongſt the cauſes of diſtortion, debility; and that this may be in the number of thoſe which are called remote, the following

ing fact will eſtabliſh: A recruiting ſerjeant had enliſted a man whoſe height was juſt adequate to the ſtandard which limited the proper ſize; after a long day's march he was preſented to the officers in command, with his other comrades; on meaſuring him, he at this time proved too ſhort by two inches; the ſerjeant was reprimanded and aſtoniſhed, unable to account for ſo great a deviation in ſo ſhort a time. Diſſatisfied at the accident, the man was again meaſured, after reſting the whole night, and proved then full as tall as was neceſſary, to the no ſmall joy of the deſponding ſerjeant.* There can be no doubt but this circumſtance aroſe from fatigue, owing to the delicacy of the man's frame, being unable to bear the ſeverity which fatigue, if often repeated, or continued for a ſeries of time, would in all probability have given riſe to diſtortion of ſome ſort or other.—However, be that as it may, with reſpect to the mode of relief in theſe caſes, our ideas are ſup-

* The Dr. ſuppoſes that in caſes like theſe the cartilages which unite the vertebræ ſhrink, ſome one line, ſome two; therefore, as the ſpine conſiſts of twenty-four vertebræ, the ſhrinking of one, added to the other, throughout, will account for the loſs of height; and that this is owing to preſſure upon them being greater than their weak or delicate ſtate can bear, which being taken off, by elevating the ſuperincumbent weight, nature becomes her own phyſician in reſtoring what is loſt.

ported by men of the firſt eminence, as far as the principle upon which we act is to be conſidered.

Monſieur VACHER remarks, "That the prin-
" cipal object in theſe circumſtances is to counter-
" act the diſtortion by a gradual and conſtant ex-
" tenſion of the ſpine." In proof of which he obſerves, "that a ſlender ſtick will ſupport a con-
" ſiderable weight when erect, but when it is
" bent, ſinks under it immediately. It is the ſame
" with the ſpine, when once its natural form is
" altered, whatever may be the cauſe of that al-
" teration, the weight of the head, and other parts
" above the curve, will, by depreſſing it, increaſe
" the deformity, particularly in young children.
" To remedy this evil, *we muſt reſtore the verte-*
" *bræ to their natural ſituation, and keep them ſo by*
" *ſupporting the ſpine till it has acquired ſtrength to*
" *reſiſt a force that would otherwiſe increaſe the cur-*
" *vature.* When the ſpine is erect, it is able to
" ſupport the weight of every part of the body
" above it, but when it is curved, its ſtrength de-
" creaſes in proportion as it deviates from its per-
" pendicular ſituation."

Dr. TURNER obſerves, after giving a ſketch of the whole ſpinal compages, one of whoſe principal uſes is for the paſſage of a production of the brain,

brain, which is conveyed to the body and limbs, productive of ſuch noble and excellent effects, " that as in parts of the brain itſelf, there com- " monly enſue the moſt formidable ſymptoms; " ſo here likewiſe, if the vertebræ happen to be " ſuddenly diſtorted, much more intirely luxated, " this ſecond brain," as he terms it, " being " compreſt, the diſtribution of the ſaid fluid or " vital energy muſt be intercepted, and conſe- " quently paralyſis; for convulſion, with a total " eclipſe of the animal faculties, come on pre- " ſently after. The paralyſis of the limbs de- " pends on, whether one or both ſides of the " ſpinal marrow is affected, and if the com- " preſſion be very great, there follows a general " reſolution of all the nerves below."

Dr. ASTRUC, profeſſor of medicine at Paris, gives the following account of this diſorder: " As the bones are preternaturally ſoft," he thinks, " there is a vicious fermentation, which holds a " medium betwixt that of the lues venerea and " ſcurvy; ſince it is not ſo active as the latter, nor " ſo ſlow as the former: the lymph impregnated " with this acid ſalt or leven, has a greater influ- " ence on the bones which it penetrates, than " on the ſoft parts; juſt as aqua fortis diſſolves " ſilver, but not gold: thus the bones grow ſof-

" ter

" ter and bigger, particularly ſuch as are moſt ex-
" poſed to cold, as thoſe of the hands and feet.
" The diſorder ſtill augmenting, the ſpina dorſi
" is at length affected, the vertebræ grow ſofter,
" and by their perpendicular ſituation and weight
" become thinner. Thus the medulla ſpinalis,
" and vertebral nerves are compreſſed. A relaxa-
" tion and inactivity are produced in all the parts
" dependant on the action of theſe parts of the
" ſyſtem, and hence is nutrition ill performed,
" as we ſee in palſy."

From the nature of oſſification, from the exact knowledge we have of the ſpine, with the various dependencies of its parts, ſituation, and uſes, added to the opinions of ſo many eminent profeſſional characters, it is rather a matter of ſurprize, that ſuch a number of errors ſhould ſtill exiſt in the management of children, in attempting to prevent diſtortion, or in curing the malady in the early ſtate of its formation. Many medical gentlemen, from obſerving the evil conſequences accruing from ill-formed ſtays, univerſally reprobate their uſe; and from this general opinion, it is no uncommon thing to ſee them prohibited in children, and caſt off in toto. We are far from imagining this always right; for if ſtays are made to ſit eaſy on the breaſt and hips, cloſe, and flat

to

to the back and ſhoulders, they become a proper ſupport to the body; but if uneaſy, they prove prejudicial to children, for as oſſification is not completed, the cartilages, nay, fore-part of the ribs, are in a tender pliant ſtate, having not ſufficient ſtrength to reſiſt preſſure, therefore require ſuch a ſupport to prevent the inconveniences which might otherwiſe ariſe. This alſo is proveable from the great uſe found in well-formed ſtays in thoſe delicate conſtitutions which are recovering from ſevere illneſſes.

But if we obſerve the preſent faſhion of the ſtays now made, there is ſcope ſufficient for argument, and the whole force of its artillery ſhould be employed againſt the pernicious cuſtom; for the fore-part of theſe are now made to ſink in the middle againſt the diaphragm: the ſtomach and other parts of the viſcera are compreſſed; indigeſtion, with all its train of complaints ſucceed, and reſpiration cannot communicate the force of its action properly. Hence ſhould they be ſo conſtructed, as not to oppreſs the vital parts; nor, in order to improve the ſhape, ſhould they be made too tight about the hips, for from hence the muſcles are contracted, the blood veſſels and nerves compreſſed, and vaſcular as well as nervous and muſcular action impeded; all which contribute to in-

jure

jure the conſtitution in general, and greatly diſpoſe in the younger part of the ſex to occaſion diſtortion. Nor indeed is there the leaſt neceſſity to run any riſque for acquiring the wiſhed-for advantage to the ſhape; ſtays might be made eaſy and at the ſame time elegantly faſhioned; acting as a ſupport to the body, and giving the appearance of an enviable figure to the ſhape, were the the back of them made narrow, and width and roundneſs given to the fore-part. All compreſſion would here be avoided, and the waiſt preſerve a delicate and pleaſing form: but for the cure of deformities many inventions have been offered, productive of little or no good effects.

Some recommend the *neck ſwing*. This is fixed to the top of the room at one end, and into the other is faſtened the head of the child, ſuſpending the body by the chin and hind head; in this ſituation the child ſwings as long as it can bear it: but, though the ſpine will appear ſtraight while the child is kept in that poſture, it cannot continue ſo above ten or fifteen minutes at one time, whence the ſpine ſoon falls into the ſame ſtate as before, and becomes often worſe from the violence of the operation, as it tends to ſtrain the ligaments and cartilages which unite the vertebræ, particularly thoſe of the neck, as they are the moſt ſlender,

and

and having the whole weight of the body hanging to them; hence, inſtead of ſtrengthening the parts, or ſupporting them till nature can relieve their defects, they are more enfeebled, and left in too debilitated ſtate: and I am perſuaded many ladies, to this practice, may attribute the occurrence of the diſeaſe, for whether the frame call for ſuch an attempt or not, it is common to make uſe of this ſwing—how prepoſterous! What can we expect from placing a delicate frame, where the cartilages are already in too expanded, and the ligaments in too relaxed a ſtate in this ſituation? let common ſenſe determine.

Nor is the SCREW CHAIR an invention which can boaſt of higher excellence; for this is nothing more than a ſwing ſcrewed to the back of a chair in which the patients ſits, and ſo fixed to the head, as in the other caſe, that the ſeat is ſcarce felt: hence is the ſpine extended; but here the ſame objections lie as to the former, being equallyineffi-cacious, without perſeverance almoſt impoſſible to be purſued by young minds, and dangerous if uſed with the ſame impropriety. Though Sir Robert Rich preſented me a young lady cured by the ſcrew chair; but he compelled her to ſit fixed in it for ten hours every day; ſuch compulſion would be rarely practicable; hence the contrivance is of little uſe.

But

But the moſt ridiculous practices ariſe from the purſuit of an erroneous idea; for ſome imagine the hips increaſe in ſize, and thus grow out of form; hence do they apply large weights to the part protuberating, making the patient carry on the affected hip, two or three pounds of lead, in order to reduce it; or if there be a ſimilar appearance on the ſhoulders, brace it down with ſtraps; faſten a weight upon it, or preſs it many times a day with their hands: all which are indeed ill-judged expedients, adding to, inſtead of alleviating the miſchief, by increaſing the preſſure, and conſequently the incurvation of the ſpine.

SWINGING THE DUMB BELLS, which is moving the arms backwards and forwards, each hand loaded with a lead weight, is alſo amongſt the practices uſed for the above purpoſe of curing diſtortion; but, like the former, augments the malady: nor indeed is there any mode that can be ſo ſafely depended upon, as that which is adapted to take off the ſuperincumbent weight with eaſe, and by gentle degrees, allowing, whilſt under cure, a ſufficient time for nature to exert her power, and give ſtrength to the debilitated parts, by a proper ſupply of oſſific matter. A ſtrong proof of which we have in the following caſe:

Some

Some years ago I was called to a young lady, with the late Dr. Hunter, who, amongſt the various modes which had been tried unſucceſsfully, had been directed to ſwing the dumb bells. The treatment which had been purſued throughout was diſapproved of by the doctor, and he committed her ſolely to my care. In the ſpace of ſix months there was a perceptible alteration in her ſhape, for the better, ſo much that ſhe was conſidered by her friends as perfectly recovered, there being no appearance of the incurvation of the ſpine remaining, conſequently my attendance longer was thought unneceſſary. The lady was removed from London, and travelled through different parts of the country in a ſeaſon of the year exceſſively warm. The habit of body being relaxed and the ſpine extended, thoſe ſides of the vertebræ before depreſſed were relieved, but ſtill continued in too ſoft a ſtate, with the ligaments and cartilages more than naturally expanded, the weight and ſuperior parts being let down upon thoſe which ſtill remained in a debilitated ſtate, to which we may add the exerciſe and motion of the carriage, the diſtortion in a ſhort time returned, of courſe, in as high a degree as before. She was then ordered, by general conſent of her friends, to bathe in the ſea, but to no purpoſe. In ſome months after ſhe returned to town —I was ſent for, and, on examination, found the

child

child crooked as on my firſt ſeeing her; I raiſed her by the head to ſee what motion there was in the ſpine; for if the ſpine does not in that ſituation yield, in any caſe, I have little hopes of ſucceſs; and now I found the vertebræ, as it were, fixed together, by the contraction of the muſcles, which I attributed to injudicious bathing: had ſhe continued my apparatus until the parts had received the proper form and firmneſs, I have no doubt but the cure would have been perfectly completed, which was now prevented, by bracing the muſcles too much whilſt the ſpine was in that diſtorted ſtate. I had another caſe to which I was recommended by Mr. John Hunter, which terminated in a ſimilar manner, from the too-early diſuſe of the apparatus.

And now, from what we have above advanced, it will appears clearly to any common capacity, that cauſes of diſtortion are,

A want of oſſific matter in the vertebræ, and too great preſſure from the parts above the incurvation; and that the common modes which have in general been practiſed, are deceptive and miſchievous, calculated rather to confirm, than cure or alleviate the complaint: and alſo, that in order to be of real ſervice, it is neceſſary to take off the

ſuper-

ſuperincumbent weight from the parts affected, by the eaſieſt and moſt gradual means poſſible; continuing this proceſs for a longer, or ſhorter time, which will be determined by the ſtrength or weakneſs of the ſyſtem, and the quick or tardy exertions of nature. All which the following hiſtories will, we doubt not, ſatisfactorily confirm, and to which we ſhall now immediately proceed.

CASE I.

DR. Bayford, formerly Aſſiſtant Surgeon to St. George's Hoſpital, Hyde Park, now Phyſician at Lewes, in Suſſex, had a ſon, about eight years old, in a deformed ſtate, relative to which he took the opinion of many medical men of eminence: at laſt Mr. Bromfield, Surgeon to the Queen's Houſehold, recommended him to me. He ſtated the child's caſe, and aſked my opinion; and received anſwers ſo ſatisfactory, reſpecting the mode of cure which I propoſed, that ſhortly after he ſent for me. When I went, I found the child unable to be moved out of bed, with every appearance of approaching diſſolution. I was informed, that at one time he could not ſwallow his food, and was convulſed: I took proper dimenſions for the apparatus as he lay, which was applied with the deſired effect. Dr. Bayford being an ingenious mechanic, as well as ſurgeon, well underſtood its operation, and ſuperintended the application. Some time after I had the ſatisfaction of ſeeing the child ride out in a little carriage: and in a few months obſerved him, hearty and ſtrong, running about the houſe with a great ſtick in his hand about ſeven feet long. Laſt Auguſt I had the pleaſure

of

of being in the young gentleman's company; we had great ſatisfaction in ſeeing each other, and our converſation turned on the circumſtances of his cure; when he informed me, that after Mr. Potts' publication, his father was deſirous of trying whether the iſſues recommended by him would be farther uſeful; they, however, had no effect: he now remains in full health a ſtudent at Cambridge, and from the date of Mr. Bayford's letter, it will appear he has continued well for near fourteen years.

" Eaſt Barnet, Aug. 26, 1776.

" Mr. JONES,

" I HAVE great pleaſure in acknowledging the " benefit which my ſon has received from the " apparatus conſtructed by you. At the time of " its application he was entirely paralytic in his " lower extremities, and had very little uſe of his " right arm. He could not bear the common " ſwing; and the cold bath brought on ſuch " dreadful cramps, that he was obliged to deſiſt " from it. The cauſe of his complaint was de- " rived from a diſtortion of the bones of the neck, " which were ſo diſplaced, that the ſecond and " ſeventh vertebræ nearly touched. He is ſo far

" recovered, that he can now walk with eaſe and
" pleaſure.

" I am,

" Your humble ſervant,

" DAVID BAYFORD.

CASE II.

Mrs. B——, of Southampton Buildings, had a daughter ſix years old, afflicted with a diſtortion of the lower vertebræ, next to the os ſacrum; this lady had all the advice that could be come at. She applied the neck ſwing, bandages of different ſorts, &c. but to no purpoſe; the weight of the body increaſed the diſtortions, inſomuch that the ſpinal marrow was compreſt, and a paralyſis took place in the lower extremities. She was ordered to Bath, but no relief was obtained: ſhe grew worſe after, and returned to town, for ſome time in that helpleſs ſtate; ſhe was then ordered to bathe in the ſea, but that proved abortive; and after a fair trial again returned home. The lady, fully ſatisfied every means had been uſed which could be thought of, was yet much concerned, after ſpending ſo much money, that no relief could be obtained. I was ſent for, and found the child unable to hold herſelf upright, that either ſitting on the lap, arm-

chair

chair or carpet, her abdomen reſted on her thighs. The mother informed me of the means which had been uſed by the medical gentlemen who had been conſulted, and their opinion, that it was a hip caſe, and incurable ; I therefore wiſhed to decline interfering, but the lady intreated me to make trial, ſaying, if I did not ſucceed ſhe would not blame me, as it was her particular deſire. To her intreaties I conſented, and deſired the child might be undreſſed. On examining, I found the bodies of the two lower vertebræ of the loins were diminiſhed ; whether the cauſe was from any other diſeaſe or ſoftneſs of the bone only, at that time I could not ſo well determine ; but this I perceived, that it was highly neceſſary to take off the ſuperincumbent weight. I was not devoid of hope, but ſaw that it would be attended with much difficulty ; I therefore proceeded with great attention. In a little time after, the child began to walk ; at firſt with her hands on her knees, but ſoon in an erect poſition, ſo that in about ſixteen months ſhe could run about as well as in common with any child of the ſame age. The Rev. Mr. Stafford of Penkridge, about two years after, as well as others, heard of the facts with great ſatisfaction from this young lady's mother.

CASE III.

A FRIEND of mine being on a viſit to Mr. Gray, of Clerkenwell, ſaw his youngeſt daughter much diſtorted; the lower limbs were paralytic, and had been ſo for a long time, owing to the ſpinal marrow being compreſſed. My friend much concerned to ſee the child, (about ten years old) ſpoke of me, but was informed that much money had been ſpent and to no good purpoſe: beſides, ſome medical gentlemen had declared the caſe irrecoverable. At length I was deſired to call, and applied my apparatus; in a few weeks the child recovered the uſe of her limbs, and in as many months could walk out of doors, and has remained well theſe eleven years.

CASE IV.

MISS B. aged ſeventeen, was exceedingly diſtorted; her right ſhoulder was raiſed nearly to the ear, owing to the curve being moſtly in the dorſal vertebræ, ſo that ſome of them laid under the ſcapula or blade bone, attended with ſhortneſs of breath, * and other complaints. The young lady

* Dr. Hunter, when ſpeaking on breathing, ſays, the all-wiſe Creator in his wiſdom, ordered that the bones of the cheſt

lady was put under my care; ſhe was ſoon relieved from thoſe ſymptoms, and in about fifteen months reſtored, to the ſatisfaction of her parents and friends. Her height was increaſed four inches.

cheſt ſhould be arched, and completely oſſified even in children at their full time, and firmer than any other part of the body; as an infant is not called to walk with its feet and legs, nor to work with its hands, but cannot live without breathing; and that the reaſon of people drawing their breath with noiſe and great labour, is ſuppoſed owing to the ribs being too cartilaginous or ligamentous; or the cheſt narrow; ſo that when it is raiſed up by the lungs, it is not ſufficiently expanded for neceſſary reſpiration, but will appear as if beaten in. He recites the account of a labour to which he was called, where the child at five or near ſix months was born alive. It made many attempts to breathe, and at laſt ſucceeded, in ſome meaſure; but at every inſpiration the breaſt bone ſunk inſtead of projecting forwards to make room for the expanſion of the lungs. The reaſon he aſſigned for this new appearance, was, that the ribs at that time were only in a ſtate of cartilage, and this is a ſubſtance too flexible for the muſcles to act upon with advantage, ſo that they could not pull them outwards or forwards, as in the adult, to make room for the free admiſſion of air: hence an effort to breathe being inſtinctively made by the child, a vacuum was formed within, and the weight of the external atmoſphere almoſt preſſed the bones of the breaſt to the back; and whilſt the doctor held it on his lap, pitying its unhappy fate, the infant expired.

CASE V.

Miss G. aged thirteen, was much diſtorted, ſo that the os ilium was incloſed by the falſe ribs; part of the dorſal vertebræ were much under the ſcapula; the true ribs twiſted in form of an acute angle; the ribs exceedingly crouded and ſunk in on the left ſide, which contracted the thorax; *(ſee plates the ſecond and fifth)*. The lungs were compreſt, and diaphragm depreſt, ſo that her going up one pair of ſtairs uſed to diſtreſs her much: the diſtortion took place when ſhe was ſixteen months old, and had been increaſing near twelve years. She was put under my care; and in about ſix weeks after was able to walk ſeven miles one day: ſhe was ſoon relieved from that ſhortneſs of breath under which ſhe laboured; the cheſt was greatly opened, her appetite increaſed, her ſhoulders became even; and life, inſtead of being burdenſome, was pleaſant and deſirable.

CASE VI.

A gentleman brought his nephew, ten years old to me, with his ſpine much curved by the bodies of the vertebræ, the ſixth and ſeventh dorſal, *(ſimilar to plate the third)* much depreſſed by weakneſs.

neſs. It had been increaſing for ſome years: bathing, &c. was ordered, but he grew worſe; with violent pains in the viſcera, thighs, and legs; nor had he power to ſtand without leaning on a table; or when out of bed, obliged to lay acroſs a chair on his belly, and frequently walked with his hands on his knees: he was placed under my care at my houſe; thoſe diſtreſſing pains were ſoon removed, and in five weeks he walked three or four miles at one time without any aſſiſtance; in a fortnight after this he walked from my houſe to Newington Buts, without ſtopping to reſt, and returned the ſame day without being tired, which is ſix miles: the day after he performed in the ſame manner to, and from, Hampſtead: he then left me hearty and well, though the apparatus was continued for ſeveral months; and has now continued healthful for theſe eight years.

CASE VII.

Master Griffiths, of Crane-ſtreet, Cheſter, was recommended to me while I was there, by Mr. Orred, ſurgeon of that city: on ſeeing the child I almoſt deſpaired of ſucceſs; as it appeared to me that the bodies of the fifth, ſixth and ſeventh dorſal vertebræ were deſtroyed by the projecting of the ſpinal proceſs; the ribs following *ſimilar to*

plate

plate the third, the cheſt was much contracted; great difficulty in reſpiration; the viſcera much compreſt, attended with pains in the lower extremities. I applied my apparatus and ſtopped till it was properly adjuſted. In my return from Manchester, I ſaw him much recovered, his pains removed, and his appetite returned. Some months after his father ſent me the following letter:

" Cheſter, Sept. 27, 1777.

" Mr. JONES,

" I HAVE great pleaſure in acknowledging the " benefit my ſon has received (ſince the twenty- " fifth of July laſt, which was the firſt time it " was uſed) from the apparatus conſtructed by " you. At the time of its firſt application, his " back was very crooked, his breaſt projected out, " his appetite very indifferent, very reſtleſs at " night, with a difficulty of breathing, being in " a very weak and poor ſtate of health. But, " bleſſed be God, he is grown much heartier, " his breaſt is more ſpread, he ſleeps and eats " much better, walks with more eaſe to himſelf, " and I have the greateſt hopes of his back-bone " being made ſtrait by continuing the apparatus a " proper time; as it is much better than it was;

" and,

" and, upon the whole, ſatisfaction is given to " all that have ſeen it.

" I am,

" Your humble ſervant,

" EDWARD GRIFFITH."

CASE VIII.

In my return to town through Wales, I was recommended by a gentleman at Whitchurch, to Dr. Owen at Shrewſbury, who ſent me to a young lady aged twelve, at Church Strutton, with a total paralyſis in all her limbs, but not in the viſcera, as they retained their motion; but ſhe could neither move hand or foot. She moſtly lay on her back, and received her food or nouriſhment through a tea pot, as ſhe was not able to ſit upright. I was informed every means had been uſed that could be thought of; electricity, fomentations; nay, they put her legs into almoſt boiling bran and water, in order to bring her to her feeling, but to no effect; I deſired ſhe might be moved a little on her ſide, to examine the ſituation of the ſpine, which was done; I then could account for the cauſe of the paralyſis, from the ſpinal marrow being compreſſed. This caſe being ſimilar to Maſter Bayford's, who perfectly recovered, I had

had reaſon to believe the ſame might happen here. The ſpinal proceſſes of the neck were diſtorted inwards, and the upper dorſal outwardly; ſo that in raiſing her up, the back part of the head would reſt on the projected dorſal vertebræ. In this caſe I perceived the reſpiration was not ſo difficult as in ſome, the diſtortion being above, the cheſt was not ſo much affected; ſhe would talk freely: I propoſed as I could not ſtay there, and the caſe requiring great attention, that ſhe might be brought to town, for I was of opinion that her limbs might be reſtored to their uſe: the parents gladly conſented. I treated her after my uſual method, in taking off the ſuperincumbent weight from the medulla ſpinalis that was depreſſed; when the nerves began to exert their power, ſhe experienced very diſagreeable ſenſations, ſimilar to thoſe which ariſe from compreſſing the crural nerves by ſitting croſs legged; afterwards a pricking, ſhooting, tingling pain, as the nerves recovered their energy. This young lady was attended or viſited by Dr. Denman, and Mr. John Hunter. Her reſidence with me was four months; in which time ſhe was able to walk by herſelf, work, write, &c. and returned home thus recovered to the great ſatisfaction of her parents and friends.

" February 18, 1778.

" Dear Friend,

" We ſhall be obliged if you will favour us " with an account of Kitty, as we have heard " but little of her ſince your laſt. A neighbour " is juſt arrived from town, who informs us " Kitty can walk acroſs the room, which gives us " great pleaſure; but it is not ſo ſatisfactory as an " account from you. Hope to hear when you " write, to fix the time for my coming to fetch " her home. Mrs. Harriſon joins in ſincere re- " ſpects to you, Mrs. Jones and family, and are " ſincerely your reſpectul friend,

" T. A. H."

" March 14, 1778.

" Sir,

" We arrived at Strutton on Tueſday even- " ing, after a diſagreeable journey, as Kitty was " but poorly, and ſince ſhe came home, has been " very ill; we ſent for Dr. Owen; ſhe is now " better, and we are in hopes all danger over. " Mrs. Harriſon and ſelf join in compliments to " you and Mrs. Jones, &c.

" And are,

" Your obliged humble ſervants,

" T. A. H."

CASE

CASE IX.

Sent in a letter from Hereford, April 22, 1778.

" Mr. JONES,

" I HAVE great pleaſure in ſending you the " caſe of Mary Jones, aged twenty years, who " was admitted into the Hereford infirmary, with " her lower extremities entirely paralytic, from " a diſtortion of the vertebræ of the back. As " ſhe found very little relief from medicine and " the cold bath, I recommended a trial of your " apparatus, which, in leſs than a month, ena- " bled her to move with crutches; and the be- " nefit ſhe has continued to receive from the uſe " of it, has been ſo great, that ſhe can now walk " with eaſe and pleaſure, without any aſſiſtance.

" I am, ſincerely wiſhing that your ap- " paratus may always meet with the " ſame ſucceſs,

" Your humble ſervant,

" THOMAS CAM,

" Surgeon at Hereford."

CASE

CASE X.

The Rev. Mr. Stafford being at Parkgate, in order to have his ſon bathed in the ſea for a curvature of the ſpine, walking one morning on the ſands, his ſon being carried by a ſervant, not being able to walk, was obſerved by a lady of Whitchurch, to one of whoſe family I had been of ſingular ſervice; ſhe aſked the child's caſe, and being informed the curve was occaſioned by a fall, ſtrongly recommended him to me, being in that neighbourhood at the time. The recommendation availed not till he viſited Mr. and Mrs. Griffith, in Crane Street, who related their child's caſe; he ſaw the effects; he then at Wrexham and at Whitchurch was ſatisfied of the effects my means had on each patient there. My ſucceſs inſpired him with hopes of his ſon receiving the ſame benefit; he therefore wrote to me, but buſineſs in town, however, prevented my attendance on Maſter Stafford; I received a ſecond letter: but I was ſtill unable to leave London. Mr. Stafford brought his ſon to town, who was at my houſe, and only remaining with me three weeks, was entirely freed from his pains, and enabled to walk about the ſtreets before he returned. About two years after this, Mr. Potts, Surgeon, publiſhed

liſhed his Remarks on that kind of palſy of the lower limbs which is frequently found to accompany the curvature of the ſpine, with his method of cure by ſetons and iſſues: this came to Mr. Stafford's hands, which put him upon inquiring whether the treatment by iſſues could be of any farther uſe to his ſon; whom, as he had ſome buſineſs near London, he brought to town, and took the opinion of Mr. John Hunter on the matter; Mr. J. H. told him, that he did not ſee how the iſſues could be of any ſervice in his ſon's preſent caſe. After that he waited on Mr. Potts with his ſon, and explained the ſtate he was in when brought to me; that he was paralytic in his lower extremities; that in three weeks after the application of the apparatus he could walk about the ſtreets, was freed from thoſe pains of which he before complained, and that he was three inches taller; his breaſt much more ſpread, reſpiration free; he could walk three or four miles at any one time without fatigue; his appetite was good, and himſelf in perfect health. Mr. Potts very candidly anſwered, that the apparatus had done for his ſon *all* and *every thing* that he ever thought or expected could be done by the iſſues. Reſpecting many particulars we here inſert Mr. Stafford's letters.

Extract

Copy of a Letter from the Rev. Mr. James Stafford.

" Parkgate, Oct. 19, 1777.

" SIR,

" I HAVE a ſon, near eleven years old, who " by a fall from the ſide of a houſe, about four- " teen months ago, diſtorted his ſpine: the cur- " vature is nearly in the middle of the back. I " was adviſed by the Faculty to bathe him in the " ſea, and for that purpoſe brought him down to " this place about ten weeks ago, and have bathed " him very regularly ever ſince, but cannot find " that he has reaped the advantages I expected. " During my ſtay here, I heard that your ſpinal " apparatus was made uſe of by a daughter of " Mr. B——'s at Wrexham, and by the ſon of " Mr. Griffiths, of Crane Street in Cheſter; both " of whom I have ſeen, and had the pleaſure to " hear that they were much better ſince the ap- " plication of your apparatus. Dr. Haygarth and " Mr. Morrall, ſurgeon, of Cheſter, are of opi- " nion that it will be of ſingular benefit to my " boy. It may be proper for you to ſee the child, " that you may be the better enabled to adapt the " apparatus to the curvature; for which purpoſe I

" wiſh you could take the opportunity of coming
" to my houſe.

" I am, SIR,

" Your very humble ſervant,

" JAMES STAFFORD."

" Penkridge, Oct. 28, 1777.

" SIR,

" I AM favoured with your letter of the 22d
" inſtant, and am ſorry to find that your preſent
" engagement with the young lady from Church-
" Stretton will not admit of your coming to my
" houſe before the time you mention. Her caſe
" is certainly a very deplorable one, and I ſin-
" cerely wiſh you may be of ſervice to her. My
" poor boy, too, is in a very melancholy ſitua-
" tion; for I can aſſure you it is with difficulty,
" even with a ſervant holding him by the arm,
" that he drags his legs after him (for walking I
" cannot call it)—he has ſcarcely ſlept one whole
" night for theſe four months laſt paſt, or more,
" free from pain, either in his ſides, back, hips,
" or thighs, and often in the courſe of the night
" in them all alternately; at other times he has
" pains in his head, and frequently breathes with
" difficulty; his whole body is much emaciated,
" but particularly his thighs and legs. All theſe
" unhappy complaints are owing, as we imagine,

" to

" to the diſtortion of the ſpine by a fall; for be-
" fore he received that injury, he was as hearty
" and ſtrong a boy as you ever ſaw. May I not,
" under theſe unhappy circumſtances, hope to
" ſee you ſooner than you mention?—I would
" gladly bring him to you, but have ſome doubts
" of his being able to undergo the fatigue of ſo
" long a journey. Could you aſcertain the time
" of coming down to my houſe, it will greatly
" oblige,

" SIR,

" Your obedient humble ſervant,

" JAMES STAFFORD."

" Penkridge, Dec. 9, 1777.

" SIR,

" I TAKE the firſt opportunity of informing
" you, that my little man and I got ſafe home
" this day to dinner, and are both of us much
" the ſame as on the morning we left London.
" You'll give me leave to acknowledge the civili-
" ties we both met with from yourſelf and Mrs.
" Jones whilſt in your houſe. My young man
" deſires to join in all due reſpect with

" Your obliged and very humble ſervant,

" JAMES STAFFORD."

" Penkridge, April 21, 1778.

" SIR,

" WE are exceeding glad to find, by your's of " the 18th inſtant, that we may hope to ſee you " at Penkridge very ſoon. You will find your " patient much better than when you ſaw him laſt " in many reſpects. He enjoys good health, and " begins to walk pretty ſtoutly; and I ſee no " reaſon why he may not in time get completely " well; but I am clear he will be benefited by " the directions you will give when you have " ſeen him.—I ſaw your Cheſter patient laſt " week: he has been exceeding ill this winter, " but is now much better, and was walking with " the maid ſervant upon the walls. I met with " a gentleman who was juſt come from Church- " Strutton; the child, he ſaid, could walk and " feed herſelf. Miſs D——, I hear, is quite " relieved of her diſtortion, and Miſs B—— " greatly better. I remain

" Your very faithful friend,

" and humble ſervant,

" JAMES STAFFORD."

CASE

CASE XI.

Miss Cobb, of Feverſham, twelve months old, was much diſtorted for an infant of that age, which Mrs. Cobb informed me was occaſioned by the careleſſneſs and inattention of a ſervant who was entruſted with the care of the child, by carrying her always on one arm in that idle poſture, the child hanging on that ſhoulder, and the ſpine in a weak and tender ſtate. Mr. and Mrs. Cobb, recommended by Mr. Jacob, Surgeon, of that place, brought the child to my houſe in Auguſt 1779: after continuing a few days till the apparatus was prepared and fitted, he returned home, and in about eighteen months the child was perfectly reſtored to her proper ſhape. I ſaw her about two years after with great pleaſure at their houſe; and laſt Auguſt I was called to attend a young lady at Deal, and in my return made Feverſham my way home, where I ſaw the young lady perfect in ſhape, health, ſtrength, &c. being now eleven years ſince the firſt application of the apparatus.

CASE XII.

Miss F——, aged fourteen, had ſuch a diſtortion of the ſpine, that her mother informed me

ſhe did not enjoy her health a week together, owing to the complaints occaſioned by the diſtortion. I was recommended by Mr. Robert Adair, Surgeon to the Royal Hoſpital, Chelſea. She was put under my care, and placed at Mrs. M——'s boarding ſchool at Greenwich, where I attended her; her health ſoon returned, and was ſo fully reſtored in about eighteen months, that few can produce a more perfect ſhape, or a finer picture of health; and what is extraordinary, ſhe in that time increaſed in height five inches: by theſe means alſo, not only her ſhape, but her health was re-eſtabliſhed.

CASE XIII.

Miss B——, of Wrexham, aged fourteen, was exceedingly diſtorted, which diſtortion was for ſome years increaſing; her body was very ſhort, on account of the great double twiſt in the ſpine. When I arrived at her father's houſe, he declared he had not faith to believe that any man could be of ſervice to his daughter; but as he had been prevailed upon by Lady Williams, he conſented to my coming down. I deſired that Mr. Lloyd, a very eminent ſurgeon of that place, might be preſent the next day, before I applied my apparatus; he was ſo: and that it might not be ſuppoſed there

was

was any deception, I desired Mr. Lloyd to take the young lady's height, which being done, I applied my apparatus, and extended her body with perfect ease to herself full three inches, which increased; the lungs were relieved from that contraction they had before experienced, the diaphragm from oppression, and general health succeeded. During my stay at Wrexham, I was also recommended to Miss D——, of Whitchurch, for a distortion in the spine, from which in a few months she perfectly recovered.

Copy of a Letter from Dr. Haygarth, at Chester, to Dr. Dobson, at Liverpool, recommending Mr. Jones.

"As I know, my dear friend, that you are "ever attentive to every invention that attempts "to remove human infirmities, I recommend to "your attention an apparatus contrived by the "bearer, Mr. Jones, to remedy distorted vertebræ "in children. He was recommended to a gentle-"man's daughter at Wrexham by Cæsar Haw-"kins.

"Your's, &c.

"J. Haygarth,

"Physician at Chester."

" *To Dr. Wholſtone, Liverpool.*

" Wrexham, July 6, 1777.

" SIR,

" THE bearer, Mr. Jones, is the conſtructor of " the ſpinal apparatus, an inſtrument by much " the moſt uſeful in diſtortions of the vertebræ " of any hitherto contrived, as confirmed to me " by Mr. Cæſar Hawkins, and ſeveral others of " the faculty in London. On ſeeing the appara- " tus, I was ſtruck with the probability of its " uſe; in conſequence applied to Mr. Cæſar " Hawkins, to be farther informed of its utility, " who recommended it in the higheſt terms. " This induced me to ſend for him to this town, " to a daughter of Mr. B——, who is ſo well " ſatisfied with his proceeding, as to expect the " greateſt advantage from it, though the inſtru- " ment has not been applied yet a full week.

" This gentleman is likewiſe the maker of the " whalebone ſplints, which are infinitely ſuperior " to any hitherto contrived for the purpoſe they " are intended for.

" In

" In juſtice to merit, I can do no leſs than re-
" commend Mr. Jones to your notice; and am,
" with great reſpect,

" Your humble ſervant,
" W. Lloyd,
" Surgeon at Wrexham."

" *To Cæſar Hawkins, Eſq. Surgeon to*
" *His Majeſty.*

" Wrexham, July 27, 1777.

" Sir,

" I have the pleaſure to inform you, that it
" is our opinion that Miſs B—— (the young
" lady I did myſelf the honour of conſulting you
" about) will receive much benefit from Mr.
" Jones's ſpinal apparatus, whoſe conduct, whilſt
" in this neighbourhood, gave general ſatisfaction.

" Mr. and Mrs. B—— join me in thanking
" you for the trouble you ſo obligingly took on
" this occaſion.

" I am, Sir, with the greateſt reſpect,
" Your much obliged
" and obedient ſervant,
" W. Lloyd,
" Surgeon at Wrexham."

CASE

CASE XIV.

MASTER J——, of Broad-ſtreet, eight years old, had a curvature of the ſpine in the lower dorſal vertebræ, ſo compreſſed, as to occaſion a palſy in the lower limbs, whether from diſeaſe or otherwiſe I do not reaſon about, as I attended with Dr. Underwood, who had the principal management of him. This patient was in a few months brought to the perfect uſe of his limbs.

CASE XV.

THE Honourable Miſs S——, ſeven years old, of a very delicate conſtitution, to which I attributed the diſtortion, which was in the dorſal vertebræ, with the cloſe attention of her mother and my aſſiſtance, was perfectly reſtored to her proper ſhape in the ſpace of ten months. To this lady I had the honour of being recommended by John Hunter, Eſq. Surgeon to the King.

CASE XVI.

MISS C——, in Berkeley ſquare, eleven years old, had been long deprived of the uſe of her lower limbs through a curvature of the ſpine, the

ſpinal

ſpinal marrow being much compreſſed from weakneſs; ſhe was reſtored to the perfect uſe of her limbs in a few weeks, after many means, ſuch as fomentation, &c. had been uſed for her recovery without effect.—I was recommended to this patient by William Bromfield, Eſq. Surgeon to the Queen's Houſehold.

CASE XVII.

Miss M——, daughter to the Rev. Mr. M——, of St. Paul's, nine years old, was recommended to me by Mr. Olive, ſurgeon, at Smithfield Bars; this young lady had not only a diſtortion in the ſpine, but alſo the muſcles of the neck were ſo contracted as to draw the chin round to the ſhoulder; but ſhe was perfectly reſtored in about twenty months: electricity and fumigations had been applied without effect.

CASE XVIII.

Mr. H——, nineteen years old, was much afflicted, owing to the great diſtortion of the ſpine, which commenced when he was three years of age, and continued to increaſe. The dorſal vertebræ were under the blade bone, ſo as not to be traced by the finger, &c.; the hip bone was covered

vered by the ſhort or falſe ribs—the cheſt ſo exceedingly contracted, as to occaſion great difficulty in reſpiration—the appetite bad. I was recommended by the Hon. Mrs. S——, whoſe daughter I was the means of reſtoring to her perfect ſhape: but doubting of ſucceſs in this caſe, on account of his age and the length of time the diſtortion had been increaſing, full ſixteen years, Mr. Hunter was conſulted, whether I could be of ſingular ſervice in this advanced age. Mr. Hunter replied, "That if he received not what might be wiſhed "for in reſtoring the diſtortion, he would be much "benefited with reſpect to his health, &c.;" and added, "it might be a means of his living ten or "twenty years longer, with more eaſe and happineſs to himſelf and family."—I was informed by the Rev. Mr. De Callagan that it had often given him pain, when in this gentleman's company, to ſee what great difficulty he had in reſpiration; the cauſe of which was, the capacity of the cheſt being diminiſhed by the great curve of the dorſal vertebræ, which decreaſed the action of the lungs and diaphragm, that wonderful inſtrument in reſpiration. I attended this caſe about twenty months, in which time the curve was ſo much reduced, and the cheſt lengthened, that he gained four inches in height; the oppreſſed viſcera were relieved by the extenſion of the thorax; his health, ſtrength, and appetite

were

were improved in a few weeks, and in a few months all theſe difficulties removed.

CASE XIX.

THE ſon of Sir ——, Bart. aged fifteen, was diſtorted; the vertebræ of the loins reclined inwards with the upper part of the os ſacrum; there were no waſte or decay in theſe bones, but a mollities or ſoftneſs, through weakneſs, as Sir —— informed he was weakly from his birth: thoſe of the ribs took a different twiſt; his right-hand, knee, and ancle, were alſo contracted. I adapted the apparatus as the caſe required; the curve of the ſpine was reduced to its proportion, and he lives in enjoyment of health and ſtrength now in College at Oxford; the contracted hand, knee, and ancle, were alſo reſtored. Mr. John Hunter was conſulted in this caſe.—In confirmation of which, we ſhall here inſert extracts from two letters from his father:

" November 4, 1782.

" My ſon is now returned to Finchley, and I " ſhall be glad if you will go there and fit him " with new apparatus; I apprehend you need not " attend him afterwards, as he is ſo much better " in his ſhape, that, I truſt, there is little fear of

" his

" his doing well, provided he pays that attention
" which he has promiſed.

" I am, Sir, Your's."

" January 20, 1783.

" As my ſon is ſo improved in health and
" ſtrength he will be able to do without the appa-
" ratus; I would, however, wiſh you to ſee him
" once more, and ſend me your opinion, and
" when I hear from you I will ſend you———
" as a reward for your ſervices. I beg leave to
" add my thanks for your care and attention.

" Your obedient ſervant."

CASE XX.

The Rev. Mr. H—, near Doncaſter, Yorkſhire, ſeeing Mr. Potts' publication, was induced to bring his daughter up to town, who had a curvature in the ſpine; the ſetons were applied, but before that this child could dance, &c. but after their application ſhe ſtooped greatly. She was frequently leaning acroſs chairs, &c. for eaſe, wanting ſupport; the father, ſtruck with the idea of the child wanting ſupport, applied to me for my aſſiſtance; but, on inquiry, found ſhe was under an eminent ſurgeon's care: I would not engage without his approbation; but he did not approve of any other aſſiſtance but the

the iſſues. Some time after, the child not recovering from that bending ſtate, Mr. H. informed me he had ſettled with this medical gentleman, and was deſirous of my aſſiſtance: ſome weeks after which the child could walk, and in ten months, as well as moſt of her age, &c. the iſſues were healed up before. Whether this young lady was recovered by the ſetons, or by my apparatus, I leave the fact to determine.

CASE XXI.

THE following caſe of Mr. T—'s ſon, of Ramſay, Hampſhire, we ſhall give as ſtated by himſelf in a letter, dated September 13, 1783:

" SIR,

" By accident I heard this week of your appa-
" ratus: a ſon of mine, aged ſix years, I believe
" from a fall, diſtorted his ſpine; after which,
" three joints of his back grew out very much to
" the left ſide; I was adviſed to have a ſwing to
" uſe with his hands, but he grew worſe: ano-
" ther ſurgeon adviſed his having two iſſues, one
" on each ſide the back, and to bathe him in cold
" water—which has been done ſome months; the
" joints of the back projecting outwards, he walks
" very weak, and leans much to one ſide; pants

" when

" when he draws his breath : I ſhall be obliged if
" you will ſay, whether your ſeeing him will be
" ſufficient, or he muſt remain with you ; I
" will follow your advice.

" Your humble ſervant,

" J. T."

I attended on this child at Ramſay, but judging it adviſeable that he ſhould be under my more immediate care, he came to my houſe with Maſter Watſon, from the ſame town, whoſe caſe I ſhall relate. Maſter T. was with me a few days only, and returned more comfortable and eaſy to himſelf: in aſſiſting and relieving this caſe was all that I expected. Mr. T. often being in town, informed me he was much improved in health, ſtrength, and in his form; I ſaw him at my houſe about three years afterwards, in good health and ſtrength, and his form as well as I could expect.

CASE XXII.

MASTER Watſon, whoſe caſe was very diſtreſſing, had been gradually increaſing in diſtortion for many months: the form of his back was like that of *plate 3d.* It appeared that ſeveral of the bodies of theſe vertebræ were abſorbed; he walked with his hands upon his knees: it was remarked by Mr. Wat-

Watſon and ſome friends, that he could not walk from his houſe to the church without reſting two or three times; the diſtance is about 150 yards.—The firſt day I applied my apparatus I reduced the curve full three inches, and increaſed rather more his height with great eaſe to himſelf; at the ſame time his breathing became pleaſant to him, on account of the body being ſo much extended, ſo that the lungs were relieved from their contracted ſtate, and the diaphragm from depreſſion: he returned with great ſatisfaction to himſelf and friends. Not many days after, he could and did walk, run, and play with many boys of the ſchool. This I was informed by Mr. Tarver, of Ramſay; and in about three months after I received the following letter:

"Ramſay, Sept. 10, 1784.

"MR. JONES,

"As my ſon's ſtays are now ſo very ſhort as "not to cover the curvature of his back, as he is "increaſed ſo much in height, I beg your imme-"diate anſwer to inform me what is to be done, "and am, Sir,

"Your humble ſervant,

"W. WATSON."

I have heard of this young man, at different times, being well.

CASE XXIII.

Miss D——, aged fifteen, was ſo much diſtorted, that part of the dorſal vertebræ were under the ſcapula. This lady was put under my care, with ſtrict injunctions to pay all poſſible attention to her caſe; the recommendation came from Dr. Rowley, who alſo attended at different times. This lady was reſtored in twenty months, ſo much to the ſatisfaction of her friends, that they made me an additional gratuity. She retained her erect ſtate when I ſaw her about two years after: ſhe has been married ſome years.—Here I muſt beg leave to obſerve—had this lady been left to her own conduct, ſhe would have both injured herſelf, as well as my reputation, by leaving off the apparatus as ſoon as the diſtortion diſappeared, which is an error of the utmoſt moment, and ought to be avoided; for theſe complaints will return if we deſiſt from the uſe of it before the ſoft bone and cartilages become firm; a ſtriking example of which this lady afforded, whilſt under cure, for being much celebrated for dancing, ſhe was invited by a party of her friends to a ball; I viſited her the day after, and was ſtruck with her appearance; I aſked the reaſon—ſhe was ſilent; I begged ſhe would go to the mark which I uſually make to be a judge of the progreſs

greſs from day to day, on which I found ſhe was three quarters of an inch ſhorter than the day before, and the ſpine was ſo much reduced; ſhe then informed me what ſhe had been doing, and the myſtery ceaſed. It is therefore highly proper for patients to ſubſcribe to neceſſity, however diſagreeable, more than to inclination; if they wiſh to reap the full benefit of this, or any other proper invention.

CASE XXIV.

Miss F——, at Briſtol, aged ſeventeen, in conſequence of the recommendation of Mr. Townſon, ſenior ſurgeon of that city, ſent a gentleman to inquire of me, if, at that age, added to the time the diſtortion had continued, any hopes of ſucceſs could be expected. I told him, that in this and all thoſe caſes it depends greatly on the patients themſelves, for if they are of amiable diſpoſitions, willing to ſubmit to proper rules, I always find, by experience, I ſucceed the beſt; nor is my proceſs difficult to undergo, for it does not occaſion, but relieves pain. By deſire, therefore, I attended on this lady at Briſtol, in March 1778, under the inſpection of Mr. Townſon, who watched the pro-

greſs. In three months after I received the following account :

" Briſtol, June 9, 1778.

" Reſpected Friend,

" I am deſired by my friend, J. Townſon, to " inform thee, that he thinks it time for my " daughter to have new ſtays and apparatus. It " is with great pleaſure I inform thee that we " think ſhe is much better, and hope by October, " which was the time thee fixed for her leaving it " off*, that ſhe may with ſafety. She has ſtrictly " followed thy directions, and has not left it off " half an hour.—My huſband and family join me " in reſpects.

" Thy aſſured friend,

" A. F."

" Briſtol, July 4, 1779.

" Reſpected Friend,

" My daughter has left off her apparatus ; my " friend, J. Townſon, ordered her to leave it off ; " I deferred anſwering thine, not knowing whe- " ther ſhe was to wear it again or not ; I now be-

* I have found it erroneous to fix the time, for if the parts are not confirmed in that period, it is with difficulty they are got to attend after ; and as it depends on the conſtitution wholly, that muſt be our guide.

" lieve

" lieve ſhe will not: ſhe has received great bene-
" fit, and I ſhall always retain a grateful ſenſe, and
" think the money well laid out, if ſhe ſhould be
" never better than ſhe is now. I intend ſending
" the ſtays and apparatus: I muſt deſire thee will
" give me thy opinion whether my daughter's ſtays
" ſhould be laced before, as thoſe thou made; and
" whether they ſhould be as ſtiff behind; I ſhould
" wiſh to have them from thee.—My huſband
" and family are well, who join me in reſpects,

" Thy aſſured friend,

" A. F."

About two years after I received the following letter from the young lady:

" Briſtol, June 8, 1781.

" Mr. Jones,

" Mrs. D—— (the lady who bears this) hear-
" ing the benefit I received from your ſtays and
" apparatus, and having a daughter growing aſide,
" was prompted to try it for her. I think there is
" great reaſon to believe it may be of equal ſervice
" to her. I conclude with wiſhing it might be of
" equal ſervice to Miſs D—— as it was to me.

" Your obliged friend,

" M. F."

CASE XXV.

Miss D——, the lady before mentioned, aged fourteen, was with me about two or three weeks, had the apparatus properly applied: Mrs. D. well inſtructed in the application of it, with every hope and expectation of her recovery, returned to Briſtol. Some months after I called on Mrs. D. at Briſtol, in my return from Devonſhire, found her daughter much improved, and a few days ſince, have been informed ſhe is married and perfectly recovered.

CASE XXVI.

Miss S—— a moſt amiable young lady, aged fifteen, laboured under a diſtortion, which had, for a length a time, been increaſing, inſomuch that the right ſhoulder was raiſed nearly to the ear, and the right hip apparently much larger than the left, with many unpleaſant ſenſations from that one cauſe. Never had I more pleaſure in attending a patient than this; ſhe uſed every effort for relief, which ſhe acquired in ſixteen months: to this lady many have been referred; among whom was Mrs. C. who I had lately engaged with for the cure of a diſtorted ſpine: but the family

ſur-

ſurgeon was of opinion, that it could not be effected without medical advice, and recommended the uſe of the vapor bath; a preſcription not perfectly congruous with a relaxed habit, which was with this lady too much the caſe already. However, as ſhe lived out of town, I was given to underſtand by letter, that Mr. —— called at Miſs —— much diſſatisfied, not having his opinion, as from the converſation held with me concerning their daughter, they felt ſo perfectly ſatisfied with what was ſaid upon the occaſion, they did not think it neceſſary to conſult Mr. ——, if ſo they ſhould have wrote up: but the young lady ſent by me to ſee Miſs S. who was under my care and wore my apparatus for fifteen months, which ſucceeded ſo well, *without any vapor bath*, was totally ſatisfactory to them; therefore conclude with ſaying, "We wholly put confidence in you, not "thinking any thing elſe neceſſary.

"Your humble ſervant

July 21, 1783. "E. C."

CASE XXVII.

A BOY aged fourteen years, by a fall from a ſhip's boom, on his back, injured the ſpine, and occaſioned a curvature; the lower limbs became paralytic: he was ſent to St. Thomas's Hoſpital;

Mr. Martine and Mr. Elſe, being ſurgeons at that time, deſired I would try the effect of my apparatus, which I did; in three weeks the boy walked about; I have ſeen him play in the ſquare; he was diſcharged the Hoſpital well: many gentlemen that were ſtudents at that time can remember the circumſtance, in Auguſt 1778, and bear teſtimony of its truth.

CASE XXVIII.

Mr. N——, of Cheſterfield, whom I had before ſeen, when I viſited a lady of that town, who was reſtored, but refuſed to attend on account of his age being twenty, and the long time the curve in the ſpine had taken place, namely, ſeven years; he came then to London, and had the opinion of Cæſar Hawkins, Eſq. &c. I being ſolicited by Dr. Mills, of Cheſterfield, and others, to make a trial, though I had refuſed before. His father being in London, found I was going to Mancheſter, called and deſired I would make his houſe in my way, only to try what ſervice I could be of to his ſon; repeated his offers as before, but as I then ſaid, if money had been my only object, I would have embraced it at firſt. I again called, though with little hopes of ſucceſs: the curve was ſomewhat like that *in plate the third:* the bodies of

theſe

theſe vertebræ waſted by mollities or ſoftneſs, and no palſy on the lower limbs, though a general debility: I judged the ſpinal marrow was ſimilar to the letter B, *in plate the fourth*, in which, Dr. Hunter obſerves, there was not a palſy in the lower limbs. I applied my apparatus, and left him under the care of a medical gentleman. In a month after I received a letter from Mr. N. dated June 5, 1778. *Extract*—"My ſon is bravely, "and has gained about two inches in height; had "he been ſeven years younger, we had done every "thing." Another of June 15, ſays, "My ſon "continues bravely, and I hope keeps growing, "though we muſt expect that will be but ſlowly "at his time of life." About ſix months after I received another of December 21, ſaying, "My "ſon has gained three inches in height, but it "was gained all in ſummer*; his cheſt is more "open, he enjoys health more. My family joins "in beſt reſpects.

"Your humble ſervant,

"R. N."

* This I obſerve, in general, that I can gain more advantage in ſummer; when the habit is more relaxed it will more freely yield; and alſo when a twiſt takes place in the ſpine, it runs with greater rapidity than in winter: ſo after ſea bathing, I find it more difficult to recover a diſtortion of the ſpine, becauſe the muſcles are more rigid; both theſe cauſes acting on the ſame principle.

CASE

CASE XXIX.

THE young gentleman I attended at Mancheſter; his diſtortion was nearly *to plate the firſt*, but was more upwards. Mr. Hall, ſenior, ſurgeon of that town, and Mr. Henry, were conſulted, but wiſhing for information from ſome medical gentleman of eminence in London, Mr. Henry wrote to John Hunter, Eſq. who returned his anſwer reſpecting what he had ſeen and known from me, which gave a full ſatisfaction; I then being in North Wales, returned to Mancheſter, adapted my apparatus, and left him under the care of Mr. Henry, from whom I have received the following accounts.—Auguſt 13, 1777. "Maſter R. goes on very well, he "was meaſured without his apparatus about a "week ago, and again laſt Saturday, in which "time he had gained a quarter of an inch: he is "perfectly eaſy with it; rides and uſes other ex-"erciſe, &c.

"Your humble ſervant,

"THOMAS HENRY."

He ſays, in another account, "Maſter R. im-"proves much in his ſhape, and will, I hope, "do you much credit."

CASE

CASE XXX.

MASTER G—— near Mold, Flintſhire, aged fifteen after a fever, his ſpine became diſtorted by mollities oſſium, and increaſed in the moſt rapid manner I ever knew in only ten months. The vertebræ of the loins went nearly in a line with the left hip: the dorſal vertebræ took the contrary twiſt under the right ſcapula; his health was much impaired; he was recommended to me by Lady Williams, and had the opinion of Mr. John Hunter. I prepared my apparatus in a few days, and raiſed the body full three inches the firſt day with perfect eaſe. He went from London in full expectation of receiving great benefit, as the muſcles had not formed any contraction. In a few months, his father being in London, called and informed me with great ſatisfaction, the ſucceſs of his ſon's health, &c. as he did the different times he came to town. About two years after, I received a letter from Mr. G. dated April 11, 1784. *Extract*—"I thank God, my ſon's health is perfectly and unvariably good, and his appearance as much improved as you could expect; he has not had an hour's illneſs ſince you ſaw him; he is out all weathers, both wet and dry. As fine

"is

" is pleaſanter for travelling, we hope to ſee you " in town next month.

" I am, Sir,

" Your very humble ſervant,

" T. G.

" P. S. Mr. G. called at my houſe laſt ſum- " mer, his ſon continues his health, ſtrength, " &c."

CASE XXXI.

Miss W—— of Plaſtow, in Eſſex, aged fifteen, was ſo greatly diſtorted, that her coats, &c. on her right ſide, were made three inches longer than the left, to appear tolerably even, on account of the ſpine inclining to the left ſide, which made the right hip appear ſo much larger. The ſpine being ſo much out of the direct line, occaſioned a greater diſtance between the right hip and ſhoulder than the left, which accounts for the cloaths being made longer on one ſide than the other. I have known other ladies do the ſame, in order to make their cloaths appear even. Soon after ſhe was under my care, I had the pleaſure in giving them the trouble, about once a month, to alter theſe coats until they made them even; ſhe was reſtored in fifteen months. This lady was placed

at

at Newington-Green boarding ſchool, where I attended her.

CASE XXXII.

Mr. E——, of Weſtminſter, aged ſeventeen, had a diſtortion which increaſed in a very rapid manner: it brought on a general debility of the ſyſtem, together with very alarming ſymptoms of approaching diſſolution. I attended him with great diligence about eighteen months, under the inſpection, and with the aſſiſtance of Sir Lucas Pepys, Phyſician Extraordinary to the King, and had the happineſs of reſtoring, in a great meaſure, to his ſhape, &c. This caſe I attended about nine years ago, and upon inquiry after this gentleman a few weeks paſt, found he was alive and well.

CASE XXXIII.

Miss B. aged fifteen, near Dover, in Kent, was recommended by a gentleman of that neighbourhood: coming to town ſoon after, he to his great ſurpriſe, ſaw a niece of his, who was before much diſtorted, ſo recovered, that he made inquiries reſpecting the means which had been uſed, and returned, wiſhing the ſame ſucceſs in attending this lady, who came to town; in whom the ſpine

was

was much diſtorted, the right ſhoulder and hip greatly elevated, and the muſcles ſurrounding the ſpine very rigid; the caſe I thought uncommon, and upon inquiring was informed ſhe had for a long time bathed in the ſea. Mr. John Hunter was conſulted: however, in ſixteen months ſhe was perfectly reſtored, and has continued well theſe ſeven years: laſt ſummer was in an erect ſtate. So well ſatisfied was Mr. B. that he made me a preſent of more than I expected. In this caſe, I was obliged to make uſe of the partial vapor bath, in order to relax thoſe muſcles ſo contracted as I ſuppoſed by ſea bathing.

CASE XXXIV.

Mrs. L——, of Birmingham, being in London, and going to the Foundling Hoſpital, and hearing the ſucceſs from the nurſe, &c. who attended one of thoſe caſes, was led to conſider the caſe of one of her children: but for better information, conſulted Mr. John Hunter. She returned home and brought to town her daughter, eight years old, who had a diſtortion in the ſpine, with a contraction of the muſcles of the neck: by the application of my means, with the attention of Mrs. L——, the child was perfectly reſtored in nineteen months: the firſt application was in June 1779. On Septem-

ber

ber 28th, I received the following account. *Extract*—" I am glad I can inform thee that Nancy " continues to mend; ſhe wears the apparatus " as right as we can conveniently put it, and I " think in a little time will want it ſtill higher, " as it is become now very familiar to her. I " ſhould like to have thee ſee her as ſhe is grown " a good deal out of her ſtays.

" I remain thy friend,

" ——."

In another letter I received ſome months after: " I have been very much engaged ſince I returned " home, or I ſhould have wrote ſooner, ſuppoſing " thou wouldeſt be pleaſed to hear that my dear " Nancy goes on as well as we can expect, though " I muſt acknowledge, that the very hot weather " we have had, has been ſome hindrance to her, " yet, ſhe has received conſiderable benefit already, " and I make no doubt of her being perfectly re- " ſtored in time, if we can but prevail with her " to wear the apparatus high enough; but we are " very careful not to fret her, which is one rea- " ſon that we do not proceed ſo faſt as we other- " wiſe might: indeed we are not ſolicitous to have " the cure performed too ſpeedily, and ſhall be " thankful to have our deſires concerning her ac- " compliſhed in twice the time that was ſpoken

" of.

" of. We ſhall be very glad to ſee thee at Bir-
" mingham, when thou comeſt into this coun-
" try. I have ſo good an opinion of the excel-
" lent benefit that may be derived from the uſe
" of this apparatus, that I ſincerely wiſh that
" all who are inclined to grow aſide, had the ad-
" vantage of it.

" I remain thy friend,

" ——."

No perſon could conduct things in this caſe, with more prudence than this lady did.

Another letter I have lately been favoured with, which is near nine years from the date of the firſt letter.

" Birmingham, Feb. 14, 1788.

" I HAVE long intended ſending thee a few lines
" concerning Nancy, but many engagements have
" prevented me, and I had deferred ſo long, I
" was not certain how to direct a letter. We have
" great reaſons to be thankful and I hope are ſo,
" that our dear Nancy is ſo well recovered: ſhe
" is grown a fine hearty girl, and nobody would
" think ſhe had ever been otherwiſe than ſtraight.
" I wiſhed for an opportunity of returning the

" ap-

" apparatus, according to agreement: it lies by
" very ſafe, as no improper or ungenerous uſe has
" been made of it. I expect to be in London in
" a few months, and intend bringing it with
" me; our family are all in pretty good health,
" which is a great favor.

" I remain thy friend,

" ——."

CASE XXXV.

MASTER C——, aged about fifteen, from Goſport, was recommended by Mr. Pinfold, now ſurgeon at Maidenhead. His diſtortion was ſimilar to that *in plate the third*, only higher; he came to my houſe very unable to ſupport himſelf, with great difficulty in breathing; I was fearful of any ſucceſs in this caſe, the bodies of ſome of the vertebræ being abſorbed: I deſired he would take the opinion of ſome ſkilful ſurgeon, which he did, and conſulted Mr. Richard Grindal, Surgeon to the London Infirmary, who did not apprehend any matter was formed, though it was evident the bodies of thoſe vertebræ were waſted conſiderably: he thought it adviſeable to relieve that oppreſſed part, by taking off the ſuperincumbent weight. This gentleman was with me ſome days before I could

adjuſt an apparatus to anſwer any good end in ſuch a difficult caſe as this, make it eaſy to be worn, for without that it cannot anſwer perfectly any purpoſe: I had very little hopes of ſucceſs; however, he returned home, and in two months after I received the following letter.

" Goſport, April 17, 1780.

" SIR,

" I HAVE the pleaſure to inform you that I " have received benefit from your apparatus in my " breath, appetite, and ſtrength, and have receiv- " ed much in my height; as I am with the in- " ſtrument, an inch and a half higher than I was " at firſt without it. I cannot poſſibly walk at all " without one of the inſtruments, as you told me " when in London; my right hip is pretty well " down. I have wrote to my uncle, and in- " formed him what benefit I have received from " your apparatus, and hope to do you ſome " ſervice in thoſe parts. I conclude with com- " pliments to your good family,

" Dear Sir,

" Your humble ſervant,

" J. C."

This young gentleman was at my houſe about a year after, to have new apparatus ſtays, &c.

It

It was great pleaſure to me and his friends to ſee him ſo much improved, though not ſo much as could be wiſhed for.

CASE XXXVI.

Miss B—, at Walthamſtow, aged eight, when I firſt ſaw her, had the ſpine greatly curved in the dorſal vertebræ; three of them were apparently waſted by the projecting of the ſpinal proceſſes: I feared at firſt this originated from diſeaſe, as there were feveriſh affections attendant. She could not walk, or ſcarce ſuffer herſelf to be removed from bed or ſopha. With great exactneſs I prepared my apparatus, which ſoon produced happy effects; for this child, who could not be moved without pain, in a few months could walk, run, and romp about with moſt children. The following letter I received eleven months after the firſt application.

" Marſh Street, Walthamſtow, Mar. 2, 1781.

" Sir,

" I have great pleaſure in acknowledging the " benefit my little girl has received ſince the 7th " of April laſt from your apparatus; at the time " it was firſt applied, the ſpine of her back was

" greatly diſtorted, ſo that ſhe could not ſtand " upright, bur leaned to her right ſide, and could " not walk without aſſiſtance. We had the advice " of two eminent ſurgeons, who ordered the uſe of " the neck ſwing and bathing in the ſea, which in- " ſtead of making her better made her ſtill worſe ; " till a lady of my acquaintance, who had ſeen " the good effects of your ſpinal apparatus, re- " commended the ſame to me : I applied accord- " ingly, and, bleſſed be God, have found her " greatly mended in every particular : ſhe is grown " ſtrong and hearty, plays and jumps about; her " appetite is very good, ſhe breathes eaſy, and as " one bone is replaced, I have great hopes, that " continuing your means, ſhe will get the better " of her deformity, &c. That all under your " care may meet with the like redreſs, is the ar- " dent wiſh of,

" Sir,

" Your obliged friend,

" M. LINDSEY."

This young lady is now at Miſs Walker's (late Lamb's) boarding ſchool, Clapton, near Hackney.

CASE XXXVII.

Miss H——, daughter of —— H——, Eſq. in Hertfordſhire, aged fourteen, had her ſpine like

like that deſcribed *in plate the firſt*, only more diſtorted upwards; ſhe being a ſlender, delicate, lady, and the diſtortion having not long taken place, I concluded there would not be that difficulty in reſtoring this, as in thoſe where defects have continued for a length of time; my conjecture was right, for this lady was ſoon perfectly reſtored: this was in the year 1780. I have made her ſtays ſeveral times ſince;* the laſt was laſt ſummer: ſhe ſtill remains in a perfect ſtate. I was recommended by Mrs. H. whoſe ſon had been under my care, aged 19 (ſee Caſe 19).

CASE XXXVIII.

Miss S——, aged fourteen, of Nottinghamſhire, came up to London to take the opinion of ſome medical gentlemen concerning her ſhape, which was much diſtorted, occaſioned by weakneſs after a long illneſs, and was ſo relaxed, that the ſpine was not able to ſupport the weight of the head. Being very unhappy on account of it, I was recommended by Mr. John Hunter, and the poſſibility of ſucceſs confirmed by Mrs. M. a lady of

* Thoſe ladies who favour me in making their ſtays, give me an opportunity of aſſiſting to maintain an erect form, &c. &c.

character, who had ſeen the good effects, in a ſimilar caſe, alſo adviſed, that this young lady ſhould be placed in or near town, where I could have frequent opportunities of attending to the means uſed; ſhe was placed at Mrs. Cookrall's ſchool, White Lands, Chelſea, as parlour-boarder there, to enjoy the opportunity of finiſhing her education, at the ſame time to attend to the recovery of her ſhape, to which ſhe made cloſe application, which was effected in about twelve months: afterwards ſhe went to bathe in the ſea, which confirmed and eſtabliſhed her in that ſtate. She remains ſo, as I was informed by a lady ſome months ago, who came from thence.—Note, this young lady was truly ſenſible of the defect in her appearance, as alſo in her health.—Bathing in the ſea, when the defect is reſtored, is perfectly conſiſtent, becauſe that part of the ſpine which was diminiſhed by preſſure, cannot be ſo firm as thoſe parts not affected: it is neceſſary therefore that every means ſhould be uſed to ſtrengthen it.

CASE XXXIX.

Miss R——, eight years old, daughter of C. R. Eſq. of Litchfield, who brought the lady to London, recommended to me by a friend of hers. The diſtortion was ſimilar to the two former: the tender

years

years of this child, and the twiſt not being of long ſtanding, gave very favourable proſpects of her being reſtored. I have had ſome letters relative to this ſubject, but by ſome means they are miſlaid; therefore I can only ſay, Mr. and Mrs. R. came to meet me at Worceſter ſome months after, where I had the pleaſure in ſeeing this child much improved, and acknowledged by them.

CASE XL.

Miss M——, at Knightſbridge, aged about ſeven, was extremely ill, waſting away through the diſtortion, principally in the dorſal vertebræ, ſo that ſhe was thought faſt approaching to her end as in a decline: ſo ſerious was the caſe, that preparation was making for her going to bathe in the ſea as the laſt reſource, when Mr. Jackſon, an ingenious ſurgeon at Knightſbridge, who was conſulted, not willing to rely wholly on his own judgement in ſo critical a caſe, called in the aſſiſtance of Mr. John Hunter, who immediately adviſed that I ſhould be ſent for. I applied my apparatus; the recovery was progreſſive; that in a few months her proper ſhape and her health were eſtabliſhed. I have made her ſtays ever ſince; I ſaw her a few months paſt, and Mrs. M—— informed me ſhe has continued in perfect health theſe ſix years.

CASE XLI.

Dr. Kerr, of Northampton, brought a young lady, aged fifteen, to London, to take the opinion of Mr. John Hunter upon the diſtortion of her ſpine. Mr. Hunter recommended the Doctor to me: I prepared the apparatus, and applied it, much to the Doctor's ſatisfaction: after fourteen months application, the young lady was reſtored, of which I received information from Mrs. Trinder, governeſs of that valuable boarding-ſchool at Northampton.—I was applied to by a lady, who conſulted me in a diſtorted caſe of her daughter, who heard of this caſe from Dr. Kerr; and knowing the Doctor, was induced to write for his opinion, which the Doctor gives, in a plain manner, as follows:

"Northampton, March 13, 1785.

"Dear Sir,

"Jones certainly was of great uſe to ——, "who is now perfectly ſtraight, and has long "ago left off the uſe of the inſtruments which he "recommended and made. I think he is a judi-"cious clever fellow in his buſineſs, and adopts "his inſtruments upon rational ſound principles,

"having

" having ſtudied anatomy under Dr. Hunter, to " enable him ſo to do. I am,

" Dear Sir,

" Your's, &c.

" W. KERR."

CASE XLII.

Miss C——d, twelve years old, of an exceeding delicate conſtitution, which had occaſioned a diſtortion of the ſpine, from the recommendation of Mr. John Hunter, and Mr. Adair, ſurgeon in the City, was put under my care: having had opportunities of making her frequent viſits, and the young lady being of an amiable diſpoſition, ſhe was perfectly reſtored in the ſhort ſpace of eight months, inſomuch, that her two aunts, with me, examined her: I aſked which ſide the ſpine then inclined to, which they could not tell. This ſhews that a cloſe perſeverance in the uſe of the apparatus, and a ſtrict adherence to the inſtructions given, ſerve greatly to expedite the cure. After this time, ſhe went to bathe in the ſea to brace and ſtrengthen the habit, in order to prevent the danger of a relapſe.

When

When at Margate, I received the following letter from this young lady:

" As I underſtand by my aunt you were deſirous " of knowing how I was, and how bathing agreed " with me—I now do myſelf the pleaſure of in- " forming you, that I am much better than when " I left town. Bathing agrees with me very " well, and I like it exceedingly; and, to my " great ſatisfaction, I wear my apparatus but half " the day. You cannot think how I pitied a " young gentleman whom I ſaw with it on yeſ- " terday, and, I make no doubt, is one of your " patients as well as myſelf. My aunt deſires her " compliments; and if you chance to come to " Margate, we ſhall be very happy to ſee you.

" I am, Sir,

" Your humble ſervant,

" A. C."

The young gentleman ſpoken of above, was one I was the means of reſtoring: but after the ſpine was erect, not continuing the apparatus for a ſufficient time, and by letting the incumbent weight fall too early on thoſe tender parts, it in ſome meaſure fell back again: like ſome others, who thinking all is well, when reſtored, and not conſidering that it is ſome time before nature can be re-eſtabliſhed, which

which depends upon the conſtitution, as ſhe may be aſſiſted, but cannot forced beyond her proper limits.

CASE XLIII.

THE following letter is from a Lady at Brighthelmſtone :

" June 27, 1783.

" MR. JONES,

" Having heard from Miſs G—— that you perfectly recovered the ſhape of a Miſs C——d, (the lady before mentioned) I wiſh you to ſee a young lady that lives with me; but as I am now at Brighton, I do not chuſe to ſend her to town till I know how long it will be before you can make the apparatus; how long it is neceſſary for her to ſtay in London; and alſo to know the whole expence. I requeſt you will inform me if the young lady's age, being fifteen, is too old to uſe the apparatus with any hopes of ſucceſs; ſhe is ſlight made, and appears younger than ſhe is.

" I am, Sir,

" Your humble ſervant,

" M. B."

This

This young lady came to town. On my examining her, I found the twiſt in the ſpine ſimilar to *plate the firſt*, only higher: being of an amiable diſpoſition, her mind entirely bent to give all attention to the recovery of her ſhape, ſhe was placed near Iſlington for the advantage of my attendance. This lady was perfectly recovered in twelve months. Mr. B. would have no medical Gentleman to attend.

CASE XLIV.

Miss P——, of Walworth, five years old, had a diſtortion of the ſpine, occaſioned by a relaxed habit; her head remarkable large and heavy, the weight of which being too great for the ſpine in that weak ſtate to ſupport, reclined, and formed a double twiſt. This lady was recommended to me by Mr. Evans, ſurgeon, at Knightſbridge. I adapted my apparatus with great attention, until ſhe was ſo well, that my further attendance was not thought neceſſary.

CASE XLV.

A son of Mr. Martin, in Clarges-ſtreet, about eight years old, with a diſtortion of the dorſal vertebræ, had the bodies of the fifth, ſixth, and

ſeventh

ſeventh, through weakneſs waſted by preſſure; ſo that the child for ſupport uſed to lean on the chairs, tables, &c. and in walking fixed his hands on his knees. I applied my apparatus, and in a few months the child could walk and run about as well as moſt boys of his age, having great ſpirits: I have often ſtood with pleaſure to ſee this child running with ſuch activity at play: this child is well known in that neighbourhood. He was one ſummer with me at Margate, bathing in the ſea, as there was not then, nor has been ſince, any appearance of diſeaſe; and it is now ſix years ſince my attendance on him.

CASE XLVI.

Miss Boiſon, in Spitalfields, aged thirteen, was of ſuch a relaxed habit of body, occaſioned by a fever, that the ſpine became diſtorted, and her chin, by a contraction of the muſcles of the neck, was drawn near to the right ſhoulder; many means had been uſed for her recovery without effect. I was applied to, and in about thirteen months ſhe perfectly recovered; inſomuch, that I called about two years after, and I was not able to diſcover the leaſt defect, either in the ſpine or in the neck. I was recommended by Mr. Chaſtellier, ſurgeon, in Spitalfields.

CASE

CASE XLVII.

Miss B. daughter of the Rev. Dr. B. in Kent, aged thirteen, who inquired of ſeveral friends of the ſucceſs which attended Miſs B. near Dover, in the recovery of the diſtortion, (Mr. Dray, ſurgeon, of Dover, attended that family, ſee Caſe 33d.) being ſatisfied, came to London, and was encouraged to apply to me; but taking the opinion of Mr. John Hunter, this lady was put under my care whilſt ſhe remained in London, and returned home with proper inſtructions, by which means the diſtortion of her ſpine, which was in the dorſal and lumbar vertebræ, was removed. Six months after I received the following agreeable letter:

"Mr. Jones,

"I have no doubt but you will be glad to hear "from me that Miſs H. B.'s ſhape is much im- "proved ſince ſhe put on your ſpinal apparatus; "but as we think of taking her to the ſea in the "month of September, we wiſh you to ſee her "before that time, that we may know whether "you will then approve of her bathing. Dr. B. "and I, therefore, wiſh to ſee you whenever it is "convenient. She is now raiſed up 32 degrees, and

"bears

" bears it very well. Dr. B. deſires his compli-
" ments.

" I am,

" Your humble ſervant,

Aug. 3, 1784. " S. B."

CASE XLVIII.

Miss B——d had a diſtortion of the ſpine both in the dorſal and lumbar vertebræ, inſomuch, that her health was greatly affected. Her mother being at a friend's houſe, was aſked the welfare of her family, and expreſſed much concern and unhappineſs about her daughter: ſhe was recommended to me by a gentleman then preſent. I attended this young lady at Mrs. Rogers' boarding-ſchool, Mile End, and in about twelve months her ſhape was reſtored, and her health in a few weeks recovered.

CASE XLIX.

Master Stewart, from the Eaſt Indies, aged fifteen, of a very relaxed habit, was greatly diſtorted in his ſpine, inſomuch, that the left hip was eclipſed by the falſe or ſhort ribs; the dorſal vertebræ

tebræ under the blade bone occaſioned great difficulty in reſpiration, with frequent pains in his head, &c. : he was put under my care, and I was enabled to extend the ſpine three inches in the firſt week, which removed the pains in his head, &c. and gave him eaſe in reſpiration : he continued increaſing in height, in proportion as the twiſt of the ſpine was reduced ; but his father dying in his paſſage home, this young gentleman was ſent for to Scotland, and I have not heard of him ſince that time.

CASE L.

Master D——, from Glaſgow, aged thirteen, was recommended to me by a lady who had been under my care, and had recovered. This young gentleman was alſo put under my care by his uncle, Mr. H. The muſcles of the neck were contracted, and a diſtortion of the vertebræ of that part. In twelve months he was reſtored ; it had not been long ſtanding, hence the cure was the more eaſily accompliſhed.

CASE LI.

Master D——, near Biſhopſgate Church, five years old, had a curve in the dorſal vertebræ ; the

the ſpinal marrow being compreſſed, occaſioned great pains in the thighs and legs; what little he did walk was with crutches; he had been for ſome months oppreſſed with difficulty in breathing, occaſioned by that part of the ſpine being ſhortened by the abſorption of the bodies of theſe vertebræ diminiſhing the thorax; hence the lungs were compreſſed, and the diaphragm depreſſed. On examination, it did not appear to me that the vertebræ were carious, or that matter was formed; ſtill it was highly neceſſary to relieve the ſpine, by taking off the incumbent weight: he was put under my care, and in three weeks he walked, had no more occaſion for his crutches, the difficulty in breathing was removed, he increaſed in health and ſtrength, and in a few months ran about. I ſaw him a few days ago; continues in perfect health, being three years ſince the firſt application of my apparatus.

CASE LII.

Miss B——, from Glaſgow, aged thirteen, whom Mr. and Mrs. B—— brought up to London in April 1785, in full expectation that I ſhould be of ſingular benefit to her, though ſhe had taken the advice of the moſt eminent medical gentlemen in thoſe parts. The caſe was a contraction of the muſcles of the neck, ſo great as to draw the chin

to the right ſhoulder, and even to affect the face with a diſtortion. The muſcles were very rigid, and ſo much contracted, that the glands of the fauces could not be felt by the finger. In this caſe I had recourſe to other means beſides the apparatus. The young lady was placed at Mrs. Hockley's boarding ſchool, at Blackland's, Chelſea, for the accompliſhment of her education, as well as to take the benefit of my attendance. In ſix months the muſcles were duly relaxed, ſo as to take their natural ſituation. The neck is now of a proper length, &c. About eight months after I received the following letter:

" Glaſgow, Dec. 28, 1785.

" DEAR SIR,

" As I have never yet had the pleaſure of hear-
" ing from you ſince my getting to Scotland, I
" ſhall now be happy to learn from you the true
" ſtate of my daughter's neck and proſpect of
" recovery, together with the time you think it
" will take to effect a cure. I have received from
" different people various accounts as to her get-
" ting better; but it is you alone I wiſh to truſt
" to: you have now had her about eight months
" under your management, and I fain hope by
" this time you have got to a tolerable degree of
" certainty, both with regard to the extent of cure
" to be expected, and time it will take. When

" you

" you write be pleaſed to ſay what are the altera-
" tions that have taken place in her appearance:
" if the neck has lengthened, if the chin has aſ-
" ſumed more its natural ſituation, and if the great
" cavity between the two maſtoideal muſcles is
" filled up. I beg you'll not only be particular,
" but open and candid concerning her. Mrs.
" B—— joins in beſt compliments to you.

" I am, dear Sir,

" Your's,

" A. B——."

For the greater ſatisfaction I took a medical gentleman with me to ſee this young lady at Chelſea, before whom and with the governeſs I took the dimenſions as ſtated in my anſwer to Mr. B. here inſerted:

" London, March 4, 1786.

" I am favoured with your's of the 28th of
" December laſt, but thro' multiplicity of buſi-
" neſs I have been prevented from tranſmitting
" to you every ſatisfactory information concern-
" ing your daughter. Miſs M. B——'s chin
" has aſſumed a much more natural ſituation;
" the muſcles have certainly ſtretched at leaſt two
" inches and three quarters in length, as you'll
" ſee by the incloſed account, which I took be-

" fore Mrs. Hockley and Miſs B—— laſt
" night; the curvature which was actually form-
" ed in the vertebræ of the neck and upper dorſal
" ones, is wholly removed. From what I have
" related you will eaſily conceive, that the cavity
" below the pomum Adami cannot be near ſo
" large as it was; ſhe has free motion with her
" head, ſo as to turn the chin to either ſhoulder
" with eaſe; the neck is long; the ſhoulders
" fall low, and are genteel; the muſcles of the
" face are much improved; and I am ſo happy in
" the ſucceſs by the means uſed, that I could
" wiſh you to have a drawing of her preſent
" figure.—It is impoſſible to aſcertain the time it
" will take to effect a perfect cure; but reſt aſ-
" ſured, my utmoſt efforts ſhall be exerted. I
" am, with compliments to Mrs. B. and yourſelf,

" Your obedient humble ſervant,

" P. JONES."

CASE LIII.

A POOR boy at Knightſbridge was by accident rode over by a gentleman; the hurt he received cauſed an incurvation of the ſpine, and a palſy of the lower limbs; he was attended by a medical gentleman, who applied cauſticks, one on each ſide of the ſpine, for a long time without

any

any effect: at length he was admitted as a patient into St. George's Hoſpital; the medical gentlemen uſed the ſame means, by applying two cauſticks near to where the others had been: he continued in the hoſpital ſeveral months, but to no purpoſe, and afterwards diſcharged; he remained at home ſome time, but his parents being poor, he was admitted into the Weſtminſter Infirmary — the medical gentlemen applied two more cauſticks juſt above where the others had been, when, after ſeveral months trial, he was diſcharged uncured, having no uſe of his limbs. His father working at Mr. Smith's manufactory at Knightſbridge, Mr. Smith deſired me to go and ſee the boy. I ſaw where the drains had been made by cauſticks, agreeable to his mother's relation; he complained of great pains in his thighs, &c. I applied my apparatus, which in a few days removed thoſe pains; but he was many months before he recovered ſtrength enough to walk about. I ſaw him ſome time paſt in company with ſome other boys, and thought he walked as well as his companions. This was more than two years after my firſt application.

CASE LIV.

Miss M——, daughter of the Rev. Mr. M——, aged fifteen, applied to me with a diſtorted ſpine in the loins and dorſal vertebræ in the manner before deſcribed. Perſeverance and great attention in this caſe even exceeded my expectation in the recovery of her ſhape.

CASE LV.

Miss C——, aged near three years, of a relaxed and delicate habit of body, had from this cauſe a diſtortion of the ſpine. The form or figure of her body alarmed the parents and friends, who attributing it to different cauſes, conſulted Dr. Denman, by whom I had the honour of being recommended. In examining the child, I perceived the bones very ſoft, particularly in the fore part of the ribs, they not having ſufficient ſtrength to form that agreeable arch which nature intended to permit the free action of the lungs and heart; hence was the cheſt contracted, which happens generally in weakly children. She was put under my care, and with great attention being paid to her, in eight months ſhe was perfectly brought ſtrait, and ſtill continues in her improved form.

This

This lady being ſo young, and the diſtortion diſcovered early, rendered it more eaſy to be removed. She was afterwards taken to bathe in the ſea, which greatly contributed to prevent a relapſe, and maintained her form erect.

Four young ladies and a gentleman I attended under the inſpection of Mr. Farquair, an eminent ſurgeon, for a particular account of the ſucceſs in theſe caſes, I ſhall beg leave to refer my readers to that gentleman, who had the opportunity of frequently ſeeing them.

Beſides the caſes I have inſerted, a great number more might be placed here, but as they are ſimilar, it would be ſwelling the catalogue only to little purpoſe, to enumerate the various others, which have come under my care; and in which I have had my endeavours crowned with ſucceſs. But it may be aſked perhaps if all diſtortions can be cured by theſe means? I wiſh I could anſwer in the affirmative, but I cannot; there are many impediments preſent themſelves to retard our progreſs; particularly is perverſeneſs and obſtinacy of temper; an inſtance of which appears in the ſubſequent caſe.

A young lady, Miſs W——, aged fourteen, whoſe ſpine was very much diſtorted, had the cheſt contracted, the lungs oppreſſed, and the diaphragm depreſſed, which in reſpiration occaſioned a ſhortneſs of breathing; her health was bad in general. The firſt day I applied my apparatus, the bones, cartilages, &c. were in that ſoft relaxed ſtate, that I extended the body full three inches in height, with perfect eaſe to herſelf; as ſhe obſerved, ſhe could now ſee herſelf in the looking glaſs, which before ſhe was not able to do, on account of her low ſtature. She ſoon found great relief in reſpiration and in health, and was perfectly ſatisfied with her appearance, but could not be prevailed upon to pay that attention requiſite for her full recovery, notwithſtanding every argument which was uſed; and Mr. Hawkes was ſo obliging as to ſee her attend, and prevent the apparatus from giving any pain. I was favoured with the following letters from Mr. Hawkes:

" Reading, October 16, 1783.

" SIR,

" I HAVE put the ſecond apparatus upon Miſs " W——'s ſtays, and think her ſhape is im- " proved, and her health much mended. I am " with her three hours every morning, that I " may ſee her fit properly, and am in great expec- " tation,

" tation, from the letters ſhe has received both
" from her uncle and father, that it will be at-
" tended with ſome ſalutary effect, as they en-
" deavour to imprint on her mind the ill conſe-
" quences of her late erroneous conduct, with
" reſpect to her future advancement and welfare
" in life. I have made her ſenſible at the ſame
" time, that ſhe has nothing to hope or expect
" from me, but from her compliance with what
" is ſo eſſential to her; and hope by the bleſſing
" of God for ſucceſs.

" I am, dear Sir,

" With much eſteem,

" Your obliging humble ſervant,

J. HAWKES.

" Reading, Nov. 17, 1783.

" DEAR SIR,

" MISS W——'s apparatus is extended to the
" utmoſt; I think her much improved both in
" health and perſon; I wiſh I could ſay it was
" with her own aſſiduity; however, one day or
" other, ſhe may ſee things with greater pro-
" priety, and gratitude may incline her to ac-
" knowledge ſo great a bleſſing with thankfulneſs.
" I imagine we ſhall have the pleaſure of ſeeing

" you

" you ſoon with another apparatus. Mrs. Hawkes
" joins me in compliments, and am,

" Dear Sir,

" Your moſt humble ſervant,

" J. HAWKES."

The following letter is from this young lady's father:

" DEAR SIR,

" NOT having lately heard from Betſey, we
" are very anxious to know how ſhe goes on;
" it is now upwards of twelve months ſince we
" put her under your care, and it would be a
" very great relief to our minds to know whether
" there is or not, any progreſs towards improve-
" ment, &c. A line from you will be more ſa-
" tisfactory than the repreſentation of any other
" can poſſibly be; and the ſooner you favor us,
" the ſooner we ſhall be at eaſe. My wife joins
" in reſpects,

" And am, Sir,

" Your humble ſervant,

" H. W."

Notwithſtanding all that could be ſaid or done, I could not prevail on this young lady to perſevere; ſhe

ſhe enjoyed her health and would not brook reſtraint. The caſe of ſuch children I ſhould ever wiſh to decline, as it occaſions uneaſineſs of mind, an injury to reputation, and fruitleſs expence.

Similar to this lady, I had two ſiſters at one time placed under my care, in my houſe, who boarded with me, by the particular deſire of their parents; I could recover the diſtortion of their ſhape, but not regulate their tempers, ſo perverſe were they; and if the mind is not well inclined, little good can be expected; theſe ladies returned little benefited: ſome others have gone on, I have known, very well for a time, till health and ſtrength being reſtored, and eaſe in reſpiration, but not admitting time for the parts to become firm, they ſink down again, and then blame the remedy as ineffectual. But there are ſome caſes ariſing from particular cauſes, that are difficult to conquer, and often baffle the utmoſt exertions and cloſeſt attention. I mean thoſe deducing their origin from a ſcrophulous habit: in theſe the ſpine will yield, and bear to be raiſed up as in others, but the ſoftened vertebræ will not oſſify, or become firm, as in thoſe where the diſtortion is from relaxation alone in delicate habits; beſides, I have obſerved ſimilar difficulty ariſes in the cure of diſtortion in the offſpring of aged parents; theſe are always tedious,

and

and take up much longer time completely to terminate the affection.

I have one young lady now under my care, this being the fourth year, for a diſtortion occaſioned by mollities oſſium of a very ſoft texture, herſelf of a delicate habit of body (ſhe was the laſt child of ſeveral others born of aged parents). The diſtortion was of that ſpecies with the double twiſt; the lower vertebræ reclining towards the left ilium; the dorſal to the margin of the right ſcapula. At firſt I ſucceeded ſo well, that in about ten months, ſhe was apparently ſtraight, to the great ſatisfaction of her friends, &c. I entreated ſtill the continuation of that attention for a length of time, till the parts had required ſtrength and firmneſs, convinced the delicacy of her frame would require it. This family retired into the country, and expoſed to much company, the young lady prevailed on her mamma to let her leave off the apparatus. In about eight weeks they returned to town; the young lady had loſt ground, it was attended to therefore again, till the next holidays: her appearance was then pleaſing, which tempted her to leave the apparatus off again. It appeared that nature was niggard in offering aſſiſtance, and as medical gentlemen were conſulted, I ceaſed to interfere with giving directions relative

to

to ſtrengthening the habit. Laſt ſummer the lady took the opinion of Mr. John Hunter, who ordered her during the vacation to bathe in the ſea; by which, and the advantage of the ſea air, (which I would recommend to all before they leave off the apparatus) her conſtitution is greatly ſtrengthened; the bone and muſcles are firmer, and ſhe now makes a very genteel appearance; the ſhoulders being perfectly even, the cheſt wide, and back flat; with the bleſſings of God, I have no doubt, but with a few months more cloſe attention, till the ſeaſon for ſea bathing returns, and repeating the ſame regimen again, the parts will be ſo ſtrengthened, that no relapſe will enſue. The difficulty in ſuch caſes is not ſo much to remove the diſtortion, by bringing the ſpine ſtraight, but to keep it ſo, by uſing every means to ſtrengthen the conſtitution; which in ſome will happen in the ſhort ſpace of nine or ten months; while in others much longer time is neceſſary.

I had the care of another lady, whoſe cure I thought fourteen or ſixteen months with care and attention would complete, but finding the ſpine had not acquired that ſtrength and firmneſs which was wiſhed for, in that time, the parents and friends deſired my further attendance till the ſpine was confirmed in ſtrength, &c. This was giving

giving a fair trial, the reward of which I hope will be ſucceſsful.

A lady in Devonſhire, whoſe father was much in years, hearing of the caſe of Miſs F——, at Briſtol, *(Caſe 24.)* was highly pleaſed with the proſpect. I left her under the care of Mr. Tippetts, an eminent ſurgeon of Barnſtable, from whom I was favoured with the following account:

"SIR,

"I am requeſted from Mrs. C——, to inform "you that Miſs C—— is increaſed in height "twelve degrees, (*i. e.* about an inch,) and in my "opinion in the long run, ſhe bids fair to receive "great benefit from your apparatus; they have "hitherto increaſed one degree per week, but pre-"ſuming it may be over done, I deſired they "would not proceed ſo rapidly, as the vertebræ "of the neck ſeem to be too much extended.

"I am, Sir,

"Your moſt humble ſervant,

"HENRY TIPPETTS."

In this caſe the whole ſpine was in a very relaxed ſtate, and as thoſe of the neck are the ſmalleſt, they more eaſily yield in extending the body.

body. Here the difficulty was not to bring the ſpine ſtraight, but time and patience were required to keep it ſo; and every means uſed to give ſtrength to the habit: and here I ſhall obſerve, that there is a neceſſity at a diſtance, to have a medical gentleman to viſit occaſionally, for the apparatus alone will not always be ſufficient; medical applications and attention are ſometimes requiſite: all caſes are not to be treated alike, nor will the apparatus made for one do for others.—Two months after I had applied the apparatus, I received a letter from Mrs. C——, Dec. 20, 1779, wherein ſhe ſays, "Mr. Tippetts thinks the child is bet-
"ter; all the change that I ſee in her *is*, that
"the ſmall ribs are filled up a good deal, conſe-
"quently the left ſide don't appear ſo full as it
"did: ſhe is much fatter than ſhe was, and her
"appetite extraordinary good; ſhe eats hearty to
"what ſhe ever did: upon the whole ſhe has gone
"on ſurpriſingly well, and every direction has
"been obſerved; only that we could not bathe
"her, as ſhe got cold ſoon after you left this.
"I am with Mr. C——, my ſiſter, and Mr.
"P——'s compliments,

"SIR,

"Your moſt obedient

"humble ſervant,

"M. C."

What

What more could be expected in two months than what is here acknowledged? however, in twelve more I received the following letter:

" January 20, 1780.

" My ſweet darling child's apparatus fits, and " ſhe appears quite eaſy; I hope and think ſhe " is better; I have high expectations of an intire " cure in the courſe of time; and am in hopes " you may be called to this ſide of Exeter: I have " ſpoke of you in the ſtrongeſt terms. Mr. " C——, with my ſiſter, Mr. P——, the chil- " dren, and Miſs G——, join me in compli- " ments to you,

" And am, Sir,

" Your obedient

" humble ſervant,

" M. C."

However, as caſes of this kind occur, and thoſe not rarely, where children counteract every good effect of the means uſed, by a wayward diſpoſition, which neither advice, threats, nor puniſhments can conquer, it behoves thoſe who have the care of children in earlieſt infancy, to attend to modes promiſing to prevent diſtortion, which certainly may be adopted and with ſucceſs; by avoid-

avoiding the errors too conſtantly purſued in nurſing, or originating from parental indulgence too frequently.

In the purſuit however of which ſalutary plan, air, exerciſe, and eaſe, with proper diet, conſtitute the principal requiſites; in the management of which depends the great probability of certain ſucceſs.

Children therefore ſhould have plenty of freſh air, and exerciſe in proportion to their age, whilſt in the nurſe's arms; and when at home be ſuffered to lie on carpets, &c. and induced by proper temptations to move themſelves from place to place, by ſuch means as nature will dictate: not put upon their legs too early, dragged about by leading ſtrings, nor cooped in go-carts; for by theſe inventions, children attempt to ſtand too ſoon, before the ſpine, and bones of the pelvis and lower extremities, have ſufficient ſtrength to bear the ſuperincumbent weight of the head, and ſuperior parts of the body: hence too often ariſe various diſtortions of the legs, back, &c.; all which, were the means purſued which we adviſe, would be prevented; for not only the body would receive ſtrength by air and exerciſe, but the ſpirits would be exhilarated, and the mind, by being

perfectly at eaſe, amuſed, and the attention kept awake. The diet ſhould be chiefly milk, of all the beſt, now and then varying it, by giving other ſucculent and nutricious viands, and in moderate proportion. Nurſes are apt to cram their children too much, and hence, from this cauſe alone, lay the foundation for future diſeaſe; by weakening the digeſtive powers, and generating crudities in the primæ viæ, by perpetually ſurcharging the tender bowels and ſtomach with loads of food. Children ſhould be often fed, but the food given ſhould be in ſmall quantities, and at proper intervals. If theſe rules were obſerved, we ſhould have, I believe, few crooked children; for we ſhould by theſe means leave nature as much as poſſible to her own operations, who left to herſelf never creates deformity; look amongſt the uncivilized part of the creation, how rare is it to ſee a crooked negroe; and wherefore? they have no back-ſtrings, go-carts, idle nurſes, nor ridiculous mothers; they feed not on the luxuries of art, but ſimply taught let nature move in her own ſphere unmoleſted. Before I conclude, however, I muſt make one obſervation; that the diſtortions by whatever means acquired, are eaſily diſcoverable, yet ſometimes the incautious may be deceived; for in ſome caſes there is only an appearance of diſtortion, which is tranſient, and rather depends on the particular attitude

titude of the child at that moment, than in any defect of nature: but this has though, often given cauſe of alarm to the anxious parents. I have often obſerved that ſuch appearances ſeldom take place but where the habit of body is very weak and delicate; yet, without great attention, often diſtortion; from which many have been ſaved by early care; and in ſeveral caſes of this kind Mr. John Hunter has been conſulted: he recommended them to me, to make ſtays on ſuch a conſtruction, as that they might ſupport the body with perfect eaſe to the child; at the ſame time ordered them to bathe in the ſea for ſix or eight weeks, and that, with the ſea air, has proved effectual, and totally remedied the complaint.

Miſs P——, recommended by Mrs. L——, and Mr. Minors, an eminent ſurgeon at Birmingham, was brought to me by her father, who put her intirely under my care. Upon examining this apparent diſtortion of the ſpine, I perceived the caſe was not truly ſuch, but only occaſionally occurred, when ſhe ſtooped to one ſide, then from the bending of the ſpine, the right os ilium appeared more prominent; but deſiring the child to put her heels cloſe together, turning the toes outwards, bearing equally on each foot, and ſtanding erect, I could not perceive any defect;

but in ſtanding on the left leg, and putting the right a ſtep forwards, I ſaw the os ilium had that elevated appearance as before; and in bending the body alſo forwards, to have a clearer view of the ſpine, I found it ſtraight: I thought it therefore not adviſable to apply any apparatus, wiſhing her father rather to take the opinion of Mr. Hunter, who upon examining the child, in putting her in different poſitions, did not perceive any diſtortion, but great weakneſs, and would not adviſe the application of any apparatus at that time, but begged the favor of Mr. Minors' attention to her, recommending every means to ſtrengthen the habit by cold and ſea bathing, and ſea air. Beſides, I have remarked wherever there is no diſtortion in the ſpine, but only an appeaaance of it in ſtooping or bending forwards, there the cheſt is frequently narrow; the ends of the ribs which are united to the ſternum being cartilaginous, are elevated into ſmall protuberances; which are nearer to each other in this poſture, than where the body is erect; and this will be in proportion to the bend, which I have obſerved to be in the dorſal vertebræ. In theſe caſes where the ſpine takes this form, I have ſeen good effects from well-made ſtays, formed to ſit very flat to the back, of ſome ſubſtance, and left full and eaſy round the cheſt, with a proper back and ſteel collar, to bring the head into its erect

erect poſition by degrees: the ſtays are to preſs on that part of the back which appears curved: the ſtraps are by degrees to bring the ſhoulders backward, which will expand the cheſt and relieve the parts depreſſed; while the collar brings the head perpendicular. This was the caſe of Lady C. G——, daughter to his Grace the Duke of G——, who came from Scotland in ſo aukward a form that it was remarked by ſome ladies, ſhe looked as if ſhe had carried the yokes, &c.: her cheſt was narrow, and her ſhoulders broad, but yet, herſelf in perfect health. I made a collar on an improved plan, which in three months ſo reſtored the ſtate of the young lady, that ſhe loſt totally all unpleaſing appearances.

From what has been offered in the foregoing pages, we ſee what prodigious diſadvantages and evil conſequences accrue from diſtorted ſpines; and though the greateſt number may be remedied by the ſimple apparatus I make uſe of, ſtill prevention is infinitely more eligible than cures however eaſy and certain; which may generally be accompliſhed by taking proper care of children in the early part of life; particularly in thoſe who are of weakly and delicate habits, by keeping them in erect poſtures, by affording ſupport to the ſpine, ſuch as they can bear with eaſe, and will not impede

activity or motion, or occaſion them to acquire a diſagreeable ſtiffneſs in their manner: and this intention will be beſt anſwered by making them wear ſtays judiciouſly adapted to their form, occaſionally altered, as neceſſity may point out. On theſe conſiderations, I therefore offer my ſervice to the public, and will, where there is no real diſtortion, undertake to ſupply ladies with one pair of ſtays, and a collar, made under my own inſpection, and where a collar is not wanting, two pair of ſtays annually, and viſit them at leaſt twice a month, ſtanding to all neceſſary repairs, for five guineas per annum.

For

For the more readily referring to particular caſes with their cauſes, we have annexed the following table.

Incurvations of the ſpine from abſorption, or waſte of the body of the vertebræ.

CASES.

No.	1	16	28
	3	20	35
	6	21	36
	7	22	45
	9	27	51

Incurvations of the ſpine from accidents.

CASES.

No.	10	27	53

Incurvations of the ſpine from ſuppoſed caries of the bones.

CASES.

No.	2	8	14

Incurvations of the ſpine from contractions of the muſcles of the neck.

CASES.

No.	17	50	52
	46		

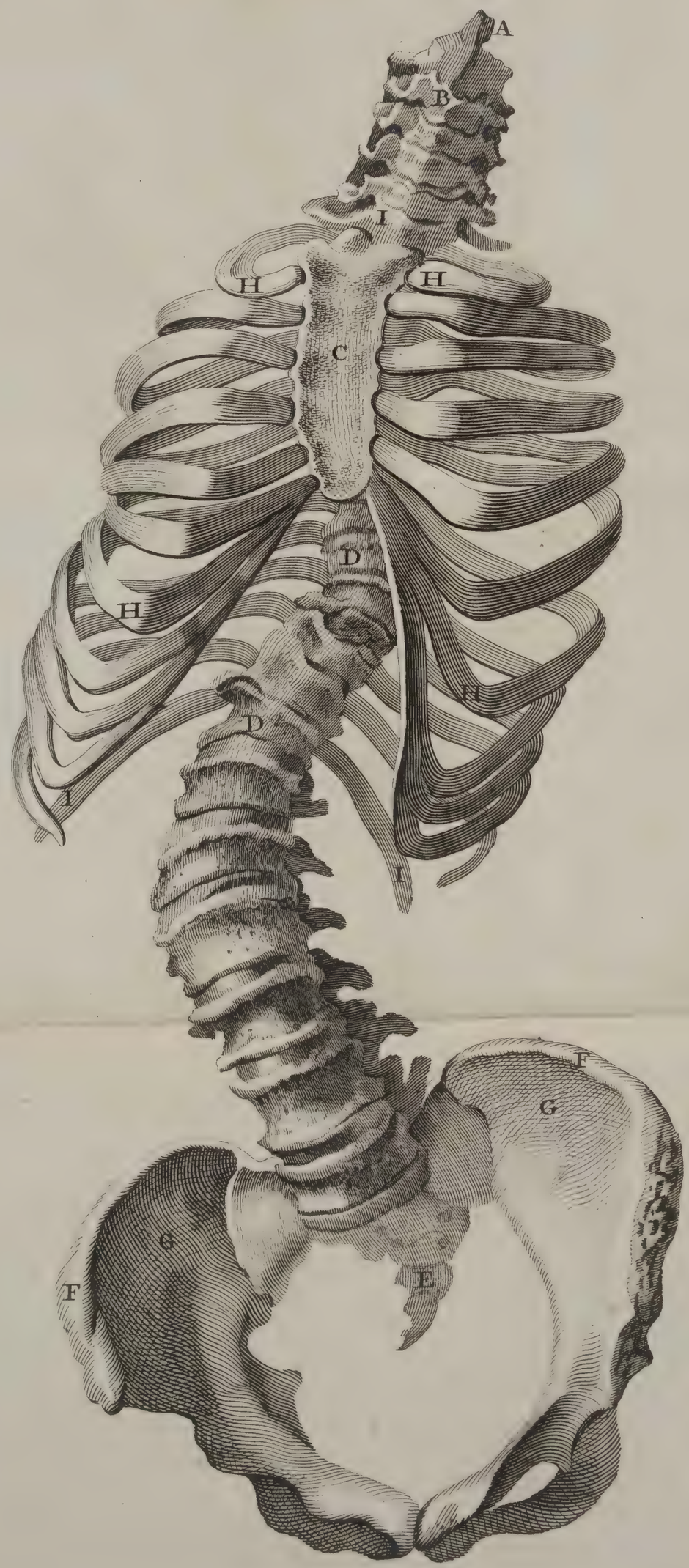
Incurvations of the ſpine from mollities oſſium, or ſoftneſs of the bone.

CASES.

No. 4, 5, 11, 12, 13, 15, 18, 19, 23, 24, 25, 26, 29, 30, 31, 32, 33, 34, 37, 38, 39, 40, 41, 42, 43, 44, 47, 48, 49, 50, 54, 55

PLATE

Fig. I.



F. Bernie del.

T. Macky Sculp.

PLATE I.

A Deſcription of a Diſtorted Spine, from the Collection of the late Dr. Hunter, by Permiſſion of the Executors, Dr. Pitcairne and Dr. Combes.

Front View.

THIS ſpine has the general appearance of thoſe which are commonly met with, having a double curvature, and ſhape of an inverted S: this is from an adult, who ſeems to have poſſeſſed a much ſtronger conſtitution and longer life than is uſual in thoſe caſes; for the bones are deeply impreſſed by the attachment of the muſcles; the ſpines of the ilium are rough and ſcabrous, and the os inominatum is thin, and nearly tranſparent from abſorption of the bone. The cheſt is thrown backward by the ſtanding forward of the lumbar vertebræ, and by this particular twiſt of the ſpine, the margin of the cheſt is removed to a greater diſtance from the ilium than we commonly find it, even in thoſe who are well ſhaped: ſo that in this caſe there is all the room for the viſcera that nature could wiſh to carry on her functions. We find that the vertebræ are in general larger than common, alſo the intervertebral ſpaces broader.

We

We ſee alſo in this, as in general, that whenever the ſpine begins to recede from the right line of ſupport, there the ſuperior vertebra ſends out oſſeous matter, to join by a callus with the inferior vertebra, by this means forming a ſtronger union, and aſſiſting to counteract the weight that is thrown to the oppoſite ſide. Here nature endeavouring to help herſelf with regard to the unequal thickneſs of the intervertebral ſubſtance, wherever it is moſt compreſſed it is thinneſt, and where there is little or no weight upon it, thickeſt. The ribs in this ſubject have not that acute angle, nor are ſo much diſtorted as in ſome; theſe are only diſplaced by following the diſtortion of the ſpine.

Fig. II.

PLATE II.

A Deſcription from a Diſtorted Spine, in the Anatomical Collection at St. Thomas's Hoſpital, by the Permiſſion of Mr. Cline, Anatomical Lecturer.

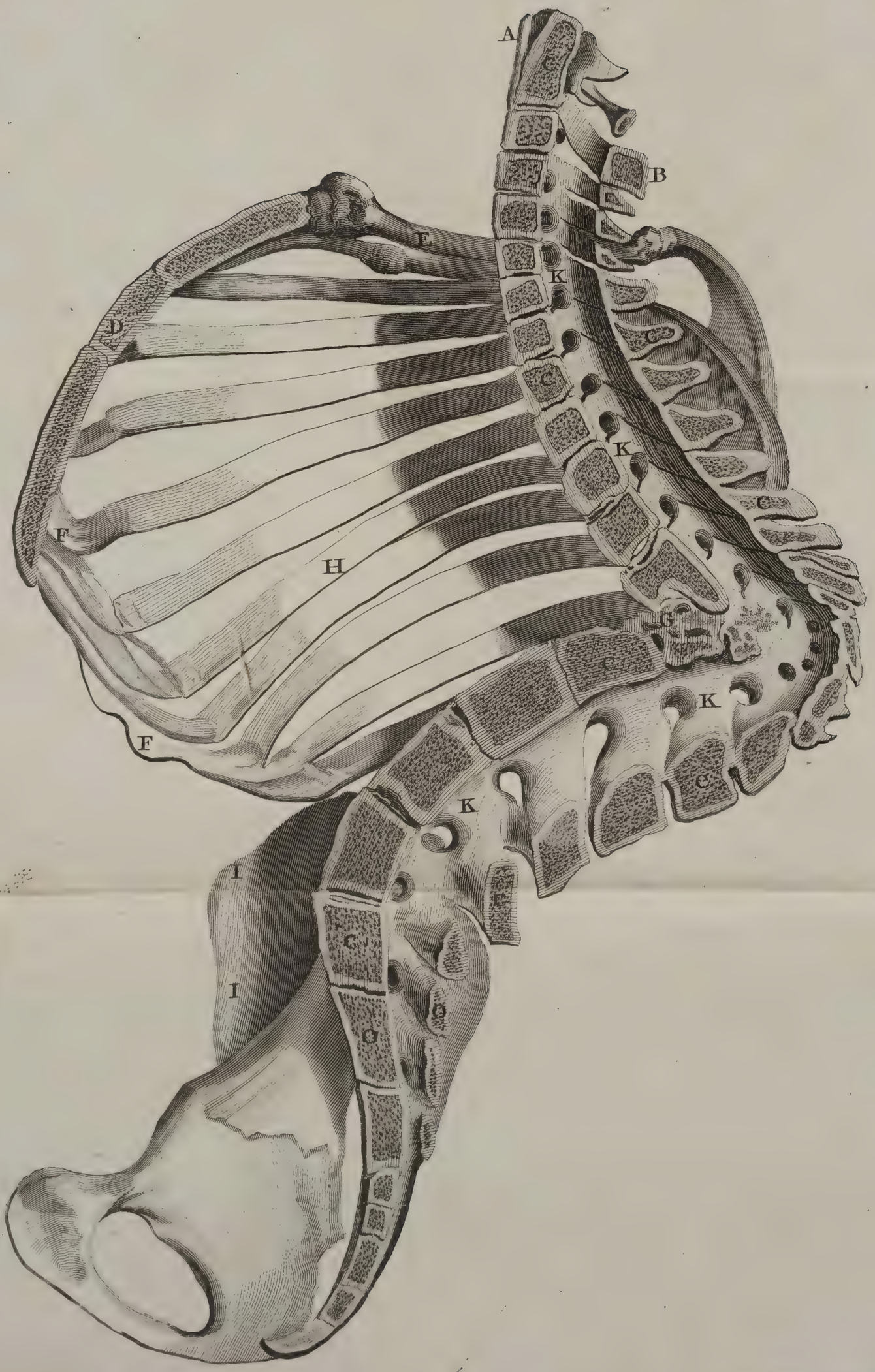
Back View.

THIS accords with the general claſs, from the mollities oſſium, or ſoftneſs of the bones, from conſtitutional weakneſs, but in this reſpect varies: that the curvature is not from ſide to ſide as moſt of this claſs are, but the curve is forwards, ſideways, and backwards, like thoſe from abſorption or caries, though without loſs of ſubſtance. It has three turnings, beginning from the pelvis; the firſt at the lower vertebræ, it comes forward, then about the ſixth vertebra it goes backward, then turns to the right and again forwards, ſo that the vertebræ colli are almoſt parallel with the horizon. In this inſtance the face muſt have looked downwards; here is an inſtance of what I have often aſſerted, and found to exiſt in the living ſubject, that is, the projection of the extremities of the ſpurious ribs over the criſta ilii. Mr. Cheſelden has given an inſtance of the ſame in his oſteology. The ſtriking appearance in this diſtortion, is the great

great and immediate projection in the angle of the ribs, which muſt have elevated the right ſhoulder nearly to the ear. It is from this projection of the ribs, cauſed by the diſtortion of the ſpine, that we ſo readily ſee and diſcover a perſon to be crooked; which appearance is owing to the mollities oſſium, and eaſily yielding to the action of the antagoniſing muſcles, acting upon the ends of the ribs every moment of our exiſtence, which bend them where they are moſt flexible. The ends of the ribs on the left ſide are ſtrangely crowded on one another. This will produce inaptitude for motion; in ſuch caſes conſequently the patient is fatigued, and out of breath with very little exerciſe.

PLATE

Fig. III.



Fred.k Bernie del.

PLATE III.

THIS is a ſection of a curved ſpine with the ribs, &c. drawn from real nature, under the inſpection, and in the collection of the muſeum of the late Dr. Hunter; ſhewing in a plain view thoſe different degrees of incurvations, from loſs of ſubſtance by abſorption, caries, &c. here is a loſs of the bodies of at leaſt ſix vertebræ; the ſpine is crooked only in direction forwards and backwards, which is generally the caſe, where the bodies of thoſe vertebræ are abſorbed. In this caſe the ſpurious ribs eclipſe the ilium; the ſpinal proceſſes project outward in proportion, as the ſpine is anchyloſed at this place. Where an anchyloſis takes place in a curved ſpine, that cannot be brought ſtraight, here we can only aſſiſt. This muſt be diſcovered by lifting the child up by the head, keeping the eye on that part of the curved ſpine, and as that more or leſs gives way by extending the body, ſo may we form our judgement of the degrees of ſucceſs that may attend the means made uſe of. In theſe caſes there is much more difficulty than in thoſe of the double twiſt. This anchyloſis is another general law in nature; for where the intervening cartilages between two bones in a joint are eroded, earthy matter is depoſited by the exhalent

halent veſſels, whence an union takes place, and a greater degree of ſtrength ; but all motion in this part is loſt. A longitudinal ſection was made of this preparation, in order to ſhew in one view the ſtate of the ſpinal canal, and alſo the general texture of bone, being, as Dr. Hunter affirms, equal in every other circumſtance to the beſt formed ſpine, in the moſt healthful ſubject.

PLATE

Fig. IV.

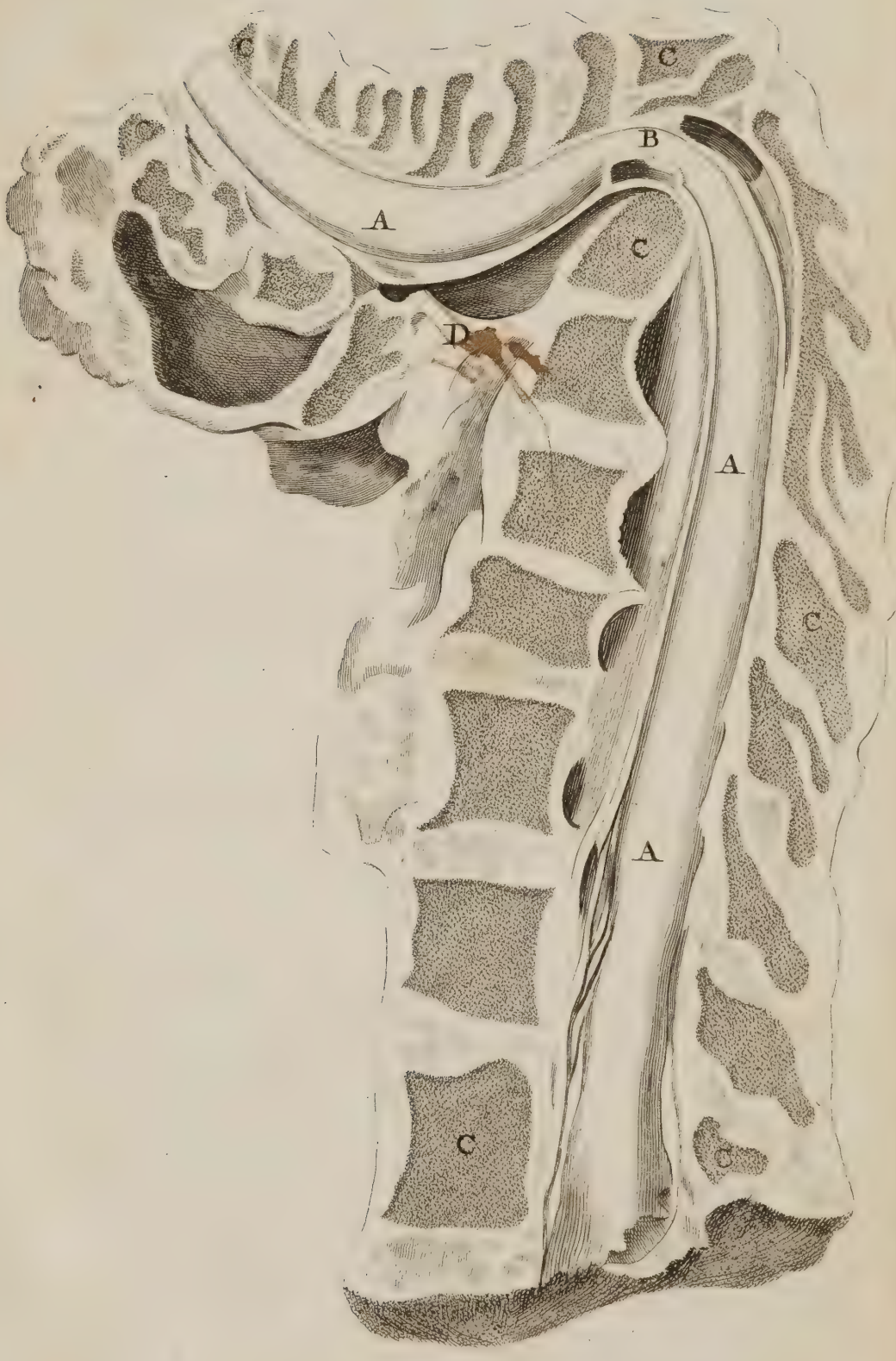


PLATE IV.

THIS deſcribes a curved ſpine intire, from the ſame collection. This ſection ſhews the compreſſion of the ſpinal marrow from incurvation; here is an inſtance of loſs of ſubſtance, from a caries of bone, three or four of the bodies of the vertebra eaten away; the ſpine above this fell directly forwards; the curvature was only in one direction, making a very acute angle, conſequently the ſpinal marrow very much preſſed. Dr. Hunter attended this caſe himſelf, and watched every circumſtance, and what ſurpriſed him moſt was, that no paralyſis or the leaſt numbneſs in the lower extremities took place; he ſaid, in his lecture, he ſhould have reaſoned the other way had he only ſeen the preparation: a plain proof that a partial compreſſion of the ſpinal marrow does not impede volition, nor always hinder the ready compliance of the body with the will of the mind. This is a very beautiful preparation in ſpirits; it ſhews where there is a waſte or loſs of ſubſtance in one or more of the vertebræ more or leſs, ſo will the medulla ſpinalis be compreſſed.

Fig. 5

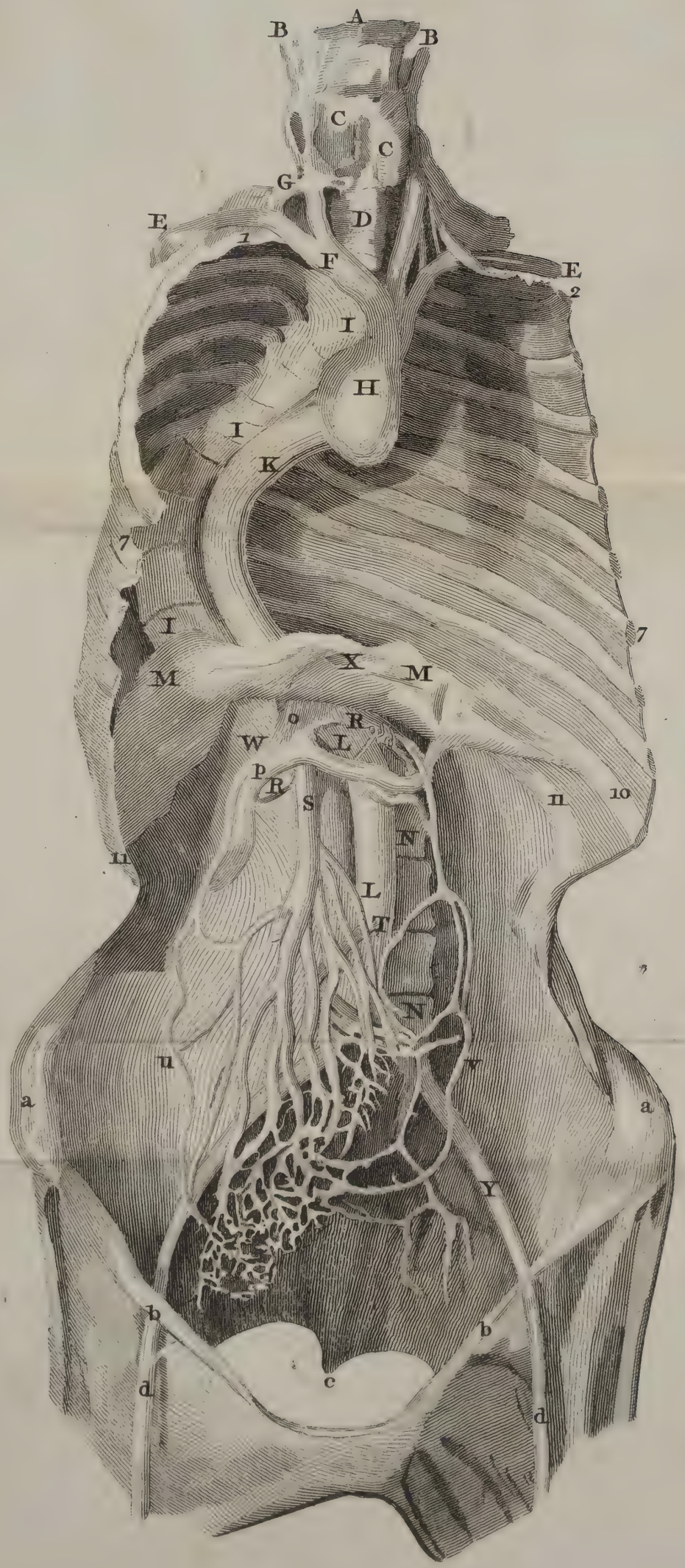


PLATE I.

A The vertebra dentata.
B The ſix remaining vertebræ of the neck.
C The ſternum.
DD The bodies of the dorſal vertebræ.
E The os ſacrum.
FF The ſpine of the os ilium.
G The os ilium.
HHHH The true ribs.
II The falſe or ſpurious ribs.

PLATE II.

A Back View of Diſtorted Spine, from the Collection at St. Thomas's Hoſpital.

A Vertebra dentata.
B B, &c. The bodies of ſix remaining vertebræ of the neck.
3. 6. The ſpinal proceſſes of the ſame.
CCC Spinal proceſſes of the twelve vertebræ of the back.
DD Spinal proceſſes of the five vertebræ of the loins.
EEE —— —————— of the falſe vertebræ of the os ſacrum.
FF Spine of the os ilium.
GG Os ilium.
H The ſeven true ribs.
I The five falſe or ſpurious.
LL Os ſacrum.
MM Tuberoſity of the os iſchium.

PLATE III.

A Diſtorted Spine from Caries, a dried Preparation in the Collection of the late Dr. William Hunter's Muſeum.

A The ſecond vertebra of the neck, counting from the head.
B The ſpinal proceſſes of the vertebræ.
CC The bodies of the ſeveral vertebræ that appear in this view.
DD The ſternum.
E The clavicula.
FF The cartilages of the ribs.
G The vertebræ deſtroyed by caries.
H The ribs.
II Os ilium.
KKKK Canal for the ſpina medullaris.
LLL Foramina through which the ſpinal nerves paſs.
O The os ſacrum.
P The os coccygis.
Q The canal for the ſpinal marrow.

PLATE IV.

A Section of a Diſtorted Spine from Caries; a Preparation from Nature, in the Collection of the late Dr. Hunter's Muſeum.

AAA The ſpinal marrow.
B The ſpinal marrow compreſſed from loſs of ſubſtance.
CC The ſpongy or bony ſubſtance of the remaining vertebræ.
D The vertebræ eaten away from caries.

PLATE V.

A Front View from a Diſtorted Spine, adult; with the Aorta taking the Curve with the Spine.

A Pomum Adami.
BB The external carotid arteries.
CC The thyroid gland.
D Trachea arteria.
EE Arteriæ axillares.
F The ſubclavians.
G Arteriæ vertebrales.
H Aorta aſcendens, the heart removed.
III The dorſal vertebræ.
K Aorta deſcendens ſuperior.
LL Aorta deſcendens inferior.
MM The diaphragm.
NN The lumber vertebræ.
O The cœliac artery.
P Arteria ventriculi coronaria.
Q Arteria ſplenica.
R The left emulgent artery.
S The ſuperior meſenteric artery.
T The inferior meſenteric artery.
UU Branches from the cœliac artery, anaſtomoſing with the inferior meſenteric.
W Arteria hepatica.
X An opening in the diaphragm for the paſſage of the œſophagus.
YY Arteriæ iliacæ.
a a Spine of the os ilium.
b b Poupart's ligament.
c Os coccygis.
d d Arteriæ crurales.
1234, &c. The ribs on both ſides.

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THE PUBLIC.

THE author of the preceding work, having made a variety of experiments relative to the effects produced by dephlogiſticated air on the human machine, as far as it relates to the relief of valetudinarians, and the healthful conſequence it produces in general, has contrived a method of procuring it in its pureſt ſtate, throwing into, and filling rooms with this ſalutary fluid, ſo that ſchools, hoſpitals, ſtudies, or any other larger buildings, may be freed from thoſe noxious materials, with which they are apt to be loaded, from common air being in too great a ſtate of impurity. His thoughts on which ſubject, he means to publiſh during the courſe of next autumn, or at fartheſt, the ſucceeding winter.